The Chemical Age

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NOTICES:—All communications relating to editorial matter should be addressed to the Editor, who will be pleased to consider articles or contributions dealing with modern chemical developments or suggestions bearing upon the advancement of the chemical industry in this country. Communications relating to advertisements or general matters should be addressed to the Manager.

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The Dead Sea Concession

THE references to the Dead Sea Concession in the debate on the Colonial Office vote did not add much to what was already known, but Colonel Howard-Bury alluded more than once to "the British group," who are anxious apparently to obtain the concession, and who are described as "headed by leading chemists in this country, who are prepared to spend from £1,000,000 to £2,000,000 to work and develop the concession." Mr. Amery seems to be quite aware of the existence of such a group, for he stated in reply to a question, "If only they had come forward while the tenders were open there would not have been this difficulty in the matter." Nothing was disclosed as to the membership of this group, and the information would certainly be interesting.

As far as can be ascertained, the Crown Agents for the Colonies in 1925 invited tenders for the right of recovering the mineral salts present in the Dead Sea, and these had to be submitted by October of that year. Applications appear to have been sent in by four parties, namely, Mr. W. H. Tottie, of London, a director of a Canadian trust company; Mr. W. M. Edwards, of Hove, and Major J. D. Henry, an Australian engineer, who together purchased the right, granted by the Turkish Government in 1913 to three Turkish subjects, to extract bromine and bromides from the waters of the Dead Sea; Mr. M. Novomeysky, a Palestinian citizen, and Major T. G. Tulloch, an engineer; and Mr. T. H. Norton, of New York, representing the Palestine Salts Corporation. Some time ago the concession was granted in principle to Messrs. Novomeysky and Tulloch, subject to agreement on details and to the Crown Agents being satisfied with the financial guarantees. Apparently they are not yet fully satisfied on the point, and the present position is this: If they are satisfied, then the provisional acceptance of the Novomeysky-Tulloch tender will be confirmed; if they are not satisfied, then the whole matter will be reopened. Suggestions were made that German interests were at work, with the object of preventing the German potash monopoly from being broken, but the Colonial Secretary declared that he had not the slightest evidence to suggest that there was any German capital or influence behind the group whose tender is being considered. It is quite reasonable that in a matter where, as Mr. Amery put it, "the present value is quite uncertain and the future value may be very great," the Government should safeguard their interests, but it ought not to need prolonged negotiations to decide whether the tenderers have the necessary financial and technical resources for taking over and working the concession.

The Chemical Warfare Debate

LORD HALSBURY, in the debate in the House of Lords on the use of toxic gases in war, presented a picture of possibilities of aerial warfare that some of the peers thought to be unduly alarming. The truth is that the facts are alarming, for it is very difficult to see what steps can be taken to prohibit the use of gases in war once war begins, and it is certain that if employed in any future war they will be applied much more destructively than in the last. Nor can anyone with any knowledge of the subject attach importance to proposals for limiting or prohibiting the manufacture of toxic gases, for the simple reason that the chemical industry, to be capable of manufacturing beneficent products, must be equally capable of manufacturing products that can easily be converted to war purposes. There is no doubt that research in this field is proceeding in most of the great nations, and it is coming to be realised that the one and only effective way of preventing chemical warfare is to prevent warfare altogether. We are afraid that the conclusion to which Professor Smithells came on his return to civilian duties sums up the real situation—that poison gas has become an irremovable part of warfare and that it can only come or go with war itself. Lord Halsbury's action in raising the matter in the Lords will probably have led many in the same direction.

British Chemical Manufacturers

THE speeches at the annual meeting of the Association of British Chemical Manufacturers (which we hope to publish in our next issue), made it clear that the need of such an organisation in the near future promises to be rather more than less. Recent events have shown the necessity of the various units in the chemical industry co-operating together for their common interests, and there appears to be no reason to suppose that the policy the Association has followed in the past will not be successfully prosecuted in the future.

Two matters in particular are already in the minds of the members—namely, the Safeguarding of Industries Act and the Dyestuffs (Import Regulation) Act. Both the chairman (Mr. C. A. Hill) and the treasurer (Dr. E. F. Armstrong) were emphatic in pleading for the continuance of both these measures, and we should imagine the general opinion of the Association to be almost unanimous in the same direction. It should be noted, however, that Sir Max Muspratt, as an old Free Trader, recognises the safeguarding and dyestuffs legislation rather as a double-edged weapon. Personally, he feels that he could justify the action taken before any public tribunal in the world, under existing conditions, but he pleads that the members should look upon both sides of the issue. If, he remarks, we want the tariffs of the world reduced we must not be too anxious as to the terms asked for safeguarding our own industries and the retention of the Dyestuffs Act. This slight divergence of opinion, or at least differing degree of emphasis, only shows the importance of the point made by Mr. Sutcliffe Smith in his recent speech to the Colour Users' Association—namely, the importance of users, manufacturers, and other interests concerned meeting together in good time and agreeing upon a common policy.

As regards the future of the Association, there was no trace of doubt or hesitation. While naturally regretting the departure of so remarkable a manager as Mr. Woolcock, the Association has been fortunate in securing the services of Mr. Davidson Pratt as his successor, and the Council's action in appointing Miss Small as secretary will be generally approved by all who know the value of her work in connection with the details of the Association. In the course of his remarks, Dr. Armstrong referred to some unsatisfactory features in connection with our present patent laws, and hinted at the possibility of definite action being taken with a view of testing the validity of certain practices.

Chemists in Beet Sugar Factories

SOME inquiries made by the Institute of Chemistry into the beet sugar industry have revealed the fact that the number of chemists employed in it has risen from 17 in 1924 to 142 in 1927. A number of British chemists have been able to acquire sufficient knowledge and experience of the industry to be appointed to permanent positions on the technical staffs of the factories, but the majority have been employed only for the duration of each campaign (three or four months). These temporary chemists are variously referred to as "shift chemists" and "campaign chemists." In some factories it has been found possible so to organise the work that no chemist is employed on a shift longer than eight hours, while in other factories chemists are said to have been engaged to work for twelve hours a day, seven days a week and (about once a fortnight) even eighteen hours continuously—during the change from day to night shift. There have also been in some factories insufficient facilities for employees to take their meals regularly.

Apart from the fact that such conditions are unsatisfactory and prejudicial to the health of the workers—the Institute feels that no chemist would accept them unless he were obliged to do so owing to the difficulty in obtaining other employment—they are also unsatisfactory from the point of view of the efficient working of the industry, since the accuracy of analyses is liable to suffer when those engaged in it are expected to work without regular and sufficient periods for refreshment and recuperation. The Council has made representations to the British sugar companies, and has urged that, before the beginning of the next campaign, the conditions affecting the employment of chemists should be improved so that those who are seeking experience may be advised that they need not fear to apply for appointments in this industry, and that the feeling of dissatisfaction which has existed regarding the treatment of such chemists may be removed. From the nature of the replies received from the companies, it is evident that the representations of the Council are receiving serious attention.

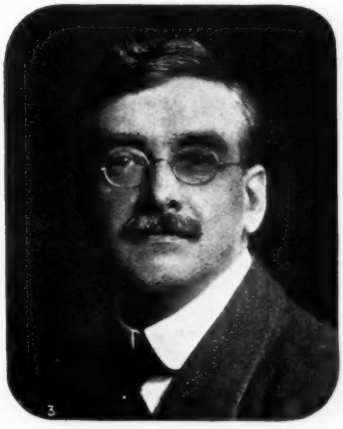
Oil Interests and Coal Technology

THE acceptance by the President of the Standard Oil Co. of New Jersey of an invitation to join the advisory board of the second coal conference at Pittsburgh in November next is regarded by American engineers and fuel technologists as an indication that American oil interests are disposed to regard bituminous coal as a future source of synthetic fuel. Although recent investigations of the American oilfields have somewhat allayed the fear that the supplies of natural petroleum are waning, the oil companies, especially the Standard Oil Co., have shown of late an increasing interest in the treatment of bituminous coal for liquid fuel purposes. About a year ago it was announced that a contract had been entered into between the I.G. Farbenindustrie and the Standard Oil Co. involving the utilisation of a modified Bergius process for the production of petrol, and more recently this was followed by an announcement that the companies intended to establish a joint experimental station in the United States, for the development of a process for the production of liquid fuel from coal. In addition to Mr. Teagle, the head of the Standard Oil Co., the advisory board includes the president of the Westinghouse Co., Mr. Otto Kahn (the New York banker), the president of the International Combustion Engineering Corporation, the president of the Babcock and Willcox Co., and Mr. C. M. Schwab, steel manufacturer and financier. These names indicate the different angles from which the problem of obtaining liquid fuel from coal is being approached.

The Calendar

July 26	Gas Light and Coke Co.: Opening of New Research Laboratories.	London.
Sep. 3–7	Society of Chemical Industry: Annual General Meeting.	New York, U.S.A.

The Chemical Engineers' Tour to Canada and U.S.A.



1. Mr. H. Talbot, Chairman Chemical Engineering Group. 2. Du Pont Hotel and Headquarters, Wilmington. 3. Professor Hinchley, Secretary Institution of Chemical Engineers. 4. Mr. F. H. Carr, President Society of Chemical Industry. 5. Fifth Avenue, New York. 6. Mr. H. C. Parmelee, Secretary American Institute of Chemical Engineers. 7. Mount Vernon, Washington's Home. 8. White Star s.s. "Megantic," on which the Party Sails on August 11.

Report on Alkali Works in Scotland

Inspector's Favourable Comments

Last week the annual report on alkali, etc., works in England was published in these columns. This week there is presented the companion report on Scottish works, written by Mr. J. W. Young, of Glasgow, dealing with the work done during 1927 in carrying out the provisions of the Alkali, etc., Works Act of 1906.

THE number of works in Scotland registered was 147, in which were operated 296 scheduled processes as follows: 6 alkali (saltcake), 1 alkali (wet copper), 2 smelting, 18 sulphuric acid, 11 sulphuric acid (Class II), 21 chemical manure, 13 gas liquor, 6 nitric acid, 107 sulphate and muriate of ammonia, 3 chlorine, 3 muriatic acid, 12 sulphide, 1 alkali waste, 10 lead deposit, 1 arsenic, 5 nitrate and chloride of iron, 1 carbon bisulphide, 3 paraffin oil, 10 bisulphite, 61 tar, and 1 zinc extraction. Mr. Young states that he made 404 visits to these works, and 24 to others not on the register; in the course of his duties he performed 260 chemical tests of escaping gases; in no case were exceeded the limits of acidity prescribed by the Act. No legal proceedings have been taken.

By the courtesy of manufacturers, Mr. Young is able to present the usual summary of raw materials and of products. The figures support the leaders of industry and commerce who have expressed their confidence in the present revival of trade.

SUMMARY OF RAW MATERIALS AND PRODUCTS.

Pyrites, Blende and Spent Oxide burned for Sulphuric Acid:—

In 1927	97,495 tons.
In 1926	79,438 ,,

Phosphates and Bones dissolved for fertilisers:—

In 1927	43,161 tons.
In 1926	43,130 ,,

	Salts of Ammonia. Tons.	Tar Distilled. Tons.	Pitch Produced. Tons.
From gas works	19,764	122,922	29,638
,, iron works	3,765	51,910	25,237
,, coke ovens	7,868	17,095	7,949
,, producer gas and bone works	5,904	8,124	5,328
,, shale works	36,557	—	—
Total 1927	73,858	200,051	68,152
In 1926	58,800	153,030	35,394

The ammonia is expressed as pure sulphate: 2,577 tons were obtained as concentrated liquor ammonia and 244 tons as ammonium chloride. About 80,000 tons of tar were dehydrated and partially distilled for road purposes.

Complaints from Town Residents.

Complaints have been received from private residents of a town against the local chemical works; the description of their annoyance was true and temperately expressed. The chief cause arises from the zinc works, mentioned again hereafter; but other works themselves discharging only minute amounts of acid vapour intensify the deleterious effects of zinc. No remedy has been yet contrived, unless to close down the works.

The owners of a work elsewhere informed me that the local sanitary officer had reported to them injury to gardens by discharge of fumes. The gardens were viewed; the reports of injury were unconfirmed, except in two slight instances where other agencies were more probable than the work accused. It was the common error to lay every blame upon the chemical works. Other complaints, of small consequence, against bisulphite works are receiving due attention.

Silica Gel Drying

It is pleasant to record another instance of the enterprise of the Glasgow Iron and Steel Co.; previous reports have described their recovery of cement dust by an electrostatic process. The present matter lies without the scope of the Alkali, etc., Works Act, except indirectly through the tar and ammonia recovered from the coal charged to the blast furnaces.

Air for the hot blast of five furnaces, 35,000 cubic feet a minute in volume or over a ton a minute by weight is cleansed from solid dirt and dried continuously; only the small amount of moisture is retained, which experience has found necessary for the best reduction of iron ore to metal. Friendly rivals are not wholly in agreement with the company as to the merits of this dried blast; but of the success of the drying process itself there is no room for doubt, nor of the admirable design of plant.

The drying is effected by silica gel, regenerated to an unending course of duty; the operation so controlled that after a given batch of gel has completed its spell at desiccation other batches successively come into action, allowing the first charge time to be regenerated and able later to resume its turn at work.

The possibilities disclosed of drying air, or other gases, on so large a scale are boundless, both industrially and in relation to human life; dry fresh air, cold or warm, now can give us at home some of the advantages of Switzerland and Egypt.

Alkali Works

To supply the increased demand for hydrochloric acid from other trades 30 per cent. more salt was decomposed than during 1926. Plant has been maintained in good order, but the best methods were not always adopted to arrest escape of acid gas at low level.

The general average amount of hydrochloric acid discharged into the air was in each cubic foot of chimney gases 0·04 grain, the highest and lowest averages for any one works being 0·07 and 0·02 respectively.

Sulphuric Acid and Sulphuric Acid (Class II.) Works

Consumers have been reluctant to pay a price for acid, sometimes lower than the cost of production, and never yielding any but small profit. Operations, depending on its use, have therefore been restrained. It has followed also that repairs to plant have been undertaken somewhat too scantily and after too long delay; nevertheless important and extensive renewals have been executed. The defects of mechanical burners have been rather more obvious than usual; dust, overheating, and fracture of moving parts. Those responsible for their working may well envy the steady ease of hand-fired kilns.

In former reports there has been described the practice of Miller and Co., of Aberdeen, to feed their second Gay-Lussac tower with a restricted supply of water instead of with strong acid. The advantages of this change both to the owner and to the public, their neighbours, have been demonstrated and proved.

Messrs. Miller have felt themselves obliged to revert to the former system, cutting off the water supply to the tower. Their reason was not that they had less confidence in the superiority of water; but that the leaden outer covering of the tower, old and thin even at the experiment's beginning, was unable to withstand the corroding action of the weak nitric acid absorbed by the water in its descent. So to postpone rebuilding of the tower it was enough to renew its weakest portions and resume the feeding of strong acid to it.

Their conclusion is drawn that in place of the ordinary leaden tower, a second Gay-Lussac tower should be erected of brick work, earthenware, or concrete, much smaller in size, of less cost, and with better endurance of the corrosion that flushing with water necessarily causes.

The general average acidity in each cubic foot of residual gases discharged by sulphuric acid works was 0·52 grain of sulphuric anhydride; the highest and lowest averages for any one work were 0·97 and 0·29 respectively.

Manufacture of stronger acid by the Class II process has continued uniformly and even more successfully than usual; the average acidity of residual gases discharged to the air was 0·4 grain less than before. Trusty performance, uninterrupted through many years, testifies to the excellence in design and construction of the present installation.

From the other processes of Class II, that is the concentration of weaker acid, the general average acidity of final gases was 0·38 grain of sulphuric anhydride.

Chemical Manure Works

No real progress has been possible in resuming former activities; and the smaller firms are being forced into the position of dealers only and blenders. At two works plant had been less efficiently maintained than usual, until serious attention was directed to necessary repairs, now executed.

Gases from the manufacture of raw phosphate into soluble superphosphate, however carefully freed from corrosive ingre-

dients, retain an odour, harmless but offensive to many. A tall chimney, draughting such washed gases to the upper air, was condemned as dangerous; from natural desire to reduce expense it was proposed to replace it by a new chimney, shorter and built of cheaper material. But considerations of geography, of prevalent wind, and of public opposition, prompted enquiry as to experience elsewhere. Throughout Great Britain only two instances were reported exceptional to a lofty point of discharge. Wisely it has been decided therefore to rebuild the chimney to its former height.

The condensation of corrosive gases in the washtowers varied from 100 to 97·1 per cent. The general average of the total acid in each cubic foot of gases escaping finally was 0·06 grain, expressed as the SO_3 equivalent of hydrofluosilicic acid.

Sulphate and Muriate of Ammonia and Gas Liquor Works

It is noteworthy that to satisfy increased local demand for pure ammonia liquor its production has increased threefold; and also how by employment of modern efficient scrubbers of coal gas it is possible greatly to improve recovery of crude ammoniacal liquor.

One small sulphate of ammonia plant was caught at work improperly—a worn connection of foul-gas pipe to the bell of saturator allowed escape of noxious gases. This is perhaps the most frequent of errors and was remedied promptly. Other plants, idle, are quite unfit for service until wholly renewed.

In the sulphate house, of large size, attached to Auchengeich colliery and coke-ovens, recovered salt is partly dried by whirling in centrifuges and neutralised as is now general. The atmosphere within the house was as usual saturated with moist vapour and impregnated with pyridine evolved by neutralisation. These trying conditions were unhealthy for the attendants and adverse also to the method of final drying in use—a deep fall through the air, in loose shower, of the sieved salt. The manager cut a large hole in each gable wall of the house high up; one hole he has left open; at the other hole at the opposite end of the house and in corresponding position he built in a large fan, motor driven, continually running, and of greenheart timber to preclude corrosion.

The change is remarkable; the manager has obtained all the advantages that he designed; the atmosphere now is cool, dry and odourless, to the comfort of the attendants and improved drying of salt.

Principles of Drying

The true principles of drying are still imperfectly understood and practised. Expensive and elaborate machines ingeniously designed, as if their purpose were to overheat the salt and grind its crystals to fine powder, are too numerous. Only few appreciate the fundamental need—abundance of air low in humidity and of moderate temperature; laundry workers have long known that to dry wet garments a brisk wind surpasses stagnant heat.

The best drying units in Scotland are simple and of home construction.

Tar Works

Statistics for tar and pitch compared with those of 1926 offer more encouragement than those from other scheduled processes. From gas works 8 per cent. less tar has been distilled, but from iron works the increase has been 365 per cent. and from coke ovens and producer gas each 152 per cent. Such tars are likely to be preferred for roadmaking, and are the more valuable as inviting less admixture of imported material.

Endurance of stills seems to have diminished and more failures than usual have been observed; nor is it easy always to agree with makers on causes of failure.

A coke oven works has discovered how greatly the ash of pitch is lowered after thorough cleansing of the tank in which crude tar had been stored for many years. Conditions have been improved in a derived process, the manufacture of tar cement by admixture of hot distilled tar with stone dust. Overheated tar, damp dust, insufficient condensation of acrid vapours, have caused much annoyance formerly.

Against registered works there has been no complaint; but complaints were received against works dealing with tar products, not as yet scheduled in Scotland.

Zinc Works

Slight alteration in composition of material charged daily to the retorts, together with careful supervision, appear to have reduced the quantity of zinc vapour discharged to the public annoyance, but the report for 1925 nearly fits 1927. There is small consolation in hearing that in the neighbourhood of zinc works elsewhere the air is still worse polluted.

Chemistry at Nottingham

An Account of the New Laboratories

In view of the recent visit of the King and Queen to Nottingham to open the new University College buildings, the following notes on the design and general appearance of the chemical laboratories may be of interest.

The chemistry department, with the exception of the basement stores and a room for large scale operations, comprises two floors. The large lecture theatre will accommodate about 100 students, and the largest laboratory, for first year work, at least 80 students. Other features of interest on the first floor are two other laboratories, one fitted for physical chemistry, the other for advanced work and research; the small lecture theatre (about 40 students); the professor's room; a common room for the staff; a laboratory for advanced work, and a small room for gas analysis.

On the second floor are another medium-sized laboratory (about 30 students) destined for advanced organic work; combustion and balance rooms; a chemical museum which adjoins the chemistry and physics joint departmental library; a research laboratory, and the professor's laboratory. All the laboratories are extremely well lighted by numerous side windows, and in some cases by top windows, and the walls are lined with white glazed tiles. Draught chambers placed at intervals round the walls are supplied with separate fans, and are each connected with some of the draught hoods on the benches. The steam ovens in the principal laboratories are supplied from the steam-heating system. The water supply is adapted for condensers, and has affixed at intervals metal vacuum pumps. The run-off gutters are ¾ in. section stoneware, with traps of the same material. The exterior woodwork is of oak, the tops of the working benches of teak, and the floors of the draught cupboards are of slate.

Salters' Institute Fellowships

The following awards for the year 1928-29 have been made by the Salters' Institute of Industrial Chemistry, and approved by the Court of the Company:—

Fellowships have been renewed to Mr. C. G. Akhurst, of the Imperial College, London (Fellow, 1927-28, at the Rothamsted Experimental Station) for one year at the Imperial College of Tropical Agriculture, Trinidad; and Mr. F. Witt, of the Imperial College, London (Fellow, 1927-28, at the Gas Institute, Karlsruhe) for one year in a German industrial fuel undertaking.

Fellowships have also been awarded to Mr. H. K. Cameron, of University College, London; Mr. H. Diamond, of University College, London; Mr. F. L. Gilbert, of University College, Nottingham, and Cambridge; Mr. C. H. Lea, of Liverpool University; Mr. A. H. Loveless, of the Imperial College, London; and Mr. H. Smith, of the Imperial College, London.

The Salters' Institute has also awarded seventy grants-in-aid to young men and women employed in chemical works to facilitate their further studies.

Chemical Merchant's Bankruptcy

A sitting for public examination under the failure of Wilfrid Cecil Smith, chemical merchant and agent, 37, Gt. Tower Street, London, E.C., was appointed in the London Bankruptcy Court on Tuesday before Mr. Registrar Mellor. According to the debtor's statement of affairs which was now filed, his liabilities amount to £9,859, of which £4,409 are returned as expected to rank; his assets consist of stock and shares to which he attaches the value of £30, doubtful book debts £9,824 and bad debts £1,345 to which at present no realisable value has been attached. Mr. Vincent Armstrong, Assistant Official Receiver, informed the Court that up to the present the preliminary examination of the debtor on his statement of affairs had only been taken in part and in these circumstances it was necessary to apply for an adjournment of the present appointment. His Honour granted this application and ordered the public examination to stand adjourned until November 6.

Chemical Trade Returns for June

Exports Increase: Imports Decrease

THE Board of Trade returns show that in June exports were valued at £2,185,502, an increase of £198,477 over the figure for June, 1927; imports were valued at £1,169,551, a decrease of £68,450; and re-exports were worth £79,800, a decrease of £20,638. For the six months ended June 30, exports were valued at £12,825,894 (up by £1,296,327); imports at £7,862,697 (down by £205,554); and re-exports at £485,346 (down by £1,590).

Imports

	Quantities Month ended June 30.		Value Month ended June 30.	
CHEMICAL MANUFACTURES AND PRODUCTS—	1927.	1928.	1927. £	1928. £
Acid Acetic .....tons	1,574	1,215	71,239	56,237
Acid Tartaric.....cwts.	4,095	2,502	20,221	15,923
Bleaching Materials ,,	14,053	13,903	9,756	10,055
Borax..... ,,	11,984	24,556	13,364	17,729
Calcium Carbide .. ,,	69,355	65,126	44,398	40,381
Coal Tar Products, not elsewhere specified value	—	—	99,309	5,003
Glycerine Crude...cwts.	1,683	6,865	5,999	24,575
Glycerine Distilled.. ,,	360	30	1,786	122
Red Lead and Orange Lead .....cwts.	4,382	2,761	7,703	4,258
Nickel Oxide..... ,,	—	175	—	814
Potassium Nitrate. ,,	7,779	9,700	9,049	9,969
All other Compounds ,,	79,558	66,081	37,130	37,941
Sodium Nitrate ... ,,	76,910	47,278	48,796	24,290
All other Compounds ,,	40,182	36,392	25,017	25,290
Tartar, Cream of .. ,,	3,976	3,291	17,297	15,112
Zinc Oxide .....Tons	1,006	1,019	35,070	31,262
All other Sorts ..value	—	—	256,879	259,666
DRUGS, MEDICINES, ETC.—				
Quinine and Quinine Salts ..... ozs.	114,948	136,580	9,606	9,504
Bark, Cinchona, etc. cwt.	1,933	1,129	9,505	5,097
Other Sorts..... value	—	—	153,500	172,431
DYES AND DYESTUFFS, ETC.—				
Intermediate Coal Tar Products .....cwts.	—	75	—	543
Alizarine ..... ,,	98	31	5,050	675
Indigo, Synthetic.. ,,	—	—	—	—
Other Sorts ..... ,,	3,167	3,421	80,960	80,719
Cutch ..... ,,	2,875	3,062	3,711	4,985
All other Sorts .... ,,	4,988	3,181	16,023	9,892
Indigo, Natural ... ,,	6	—	158	—
Extracts for Tanning cwts.	108,053	92,189	111,615	102,490
PAINTERS' COLOURS AND MATERIALS—				
Barytes, ground, and Blanc Fixe .... cwts.	64,186	72,090	15,183	16,251
White Lead (dry) .. ,,	9,865	16,812	16,549	26,289
All other sorts .... ,,	109,760	130,052	113,128	162,048
Total of Chemicals, Drugs, Dyes, and Colours .....value	—	—	1,238,001	1,169,551

Exports

CHEMICAL MANUFACTURES AND PRODUCTS—				
Acid Sulphuric....cwts.	2,611	13,416	2,864	4,195
Acid Tartaric .... ,,	1,607	3,016	10,565	20,639
Ammonium Chloride (Muriate) .....Tons	496	303	10,036	6,824
Ammonium Sulphate—				
To Spain and Canaries tons	12,988	14,363	130,715	136,530
,, Italy ..... ,,	345	195	3,572	2,053
,, Dutch East Indies tons	967	—	10,389	—
,, Japan ..... ,,	12,982	8,203	136,609	81,689
,, British West India Islands and British Guiana tons	1,039	3,102	11,685	31,307
,, Other Countries ,,	5,421	13,905	57,983	142,904
Total ..... ,,	33,742	39,768	350,953	394,483
Bleaching Powder (Chloride of Lime) .....cwts.	30,974	46,057	12,510	16,120

	Quantities. Month ended June 30.		Value Month ended June 30.	
	1927.	1928.	1927.	1928.
COAL TAR PRODUCTS—				
Anthracene.....cwts.	—	—	—	—
Benzol and Toluol galls.	1,309	147,642	156	8,492
Carbolic Acid.....cwts.	10,639	20,092	24,763	35,397
Naphtha .....galls.	4,149	6,423	456	635
Naphthalene .....cwts.	864	906	707	685
Tar Oil, Creosote Oil, etc. .....galls.	3,376,367	1,611,329	116,091	48,727
Other Sorts .....cwts.	64,341	84,074	33,603	40,344
Total .....value	—	—	175,776	134,280
Copper, Sulphate of..tons	6,033	6,027	128,980	142,017
Disinfectants, etc. ..cwts.	27,083	31,807	68,229	82,106
Glycerine, Crude .... ,,	485	1,234	1,507	4,272
Glycerine Distilled .. ,,	8,872	7,633	43,622	27,485
Total ..... ,,	9,357	8,867	45,129	31,757
POTASSIUM COMPOUNDS—				
Chromate and Bi-chromate .....cwt.	1,572	2,073	2,847	3,800
Nitrate (Saltpetre). ,,	1,406	935	2,147	1,783
All other Sorts .... ,,	1,089	1,822	13,329	13,990
Total ..... ,,	4,067	4,830	18,323	19,573
SODIUM COMPOUNDS—				
Carbonate.....cwts.	450,676	377,420	133,857	105,327
Caustic ..... ,,	195,505	171,289	135,173	114,060
Chromate and Bi-chromate .....cwts.	2,263	6,246	3,090	8,285
Sulphate, including Salt Cake .....cwts.	79,635	103,389	12,813	12,016
All other Sorts .... ,,	68,696	64,480	46,458	77,610
Total ..... ,,	796,775	722,824	331,391	317,298
Zinc Oxide.....tons	67	138	3,054	5,634
All other sorts .....value	—	—	269,124	322,545
Total of Chemical Manufactures and Products value	—	—	1,426,934	1,497,471
DRUGS, MEDICINES, ETC.—				
Quinine and Quinine Salts .....ozs.	110,858	211,285	11,098	18,887
All other Sorts ...value	—	—	185,933	242,636
Total ..... ,,	—	—	197,031	261,523
DYES AND DYESTUFFS—				
Products of Coal Tar cwts.	5,387	9,719	48,153	75,109
Other Sorts ..... ,,	7,156	5,234	8,543	7,663
Total ..... ,,	12,543	14,953	56,696	82,772
PAINTERS' COLOURS AND MATERIALS—				
Barytes, ground, and Blanc Fixe .....cwts.	1,280	2,671	739	1,450
White Lead (dry) .. ,,	4,187	6,068	8,046	11,160
Paints and Colours, in paste form .....cwts.	42,306	47,014	89,420	97,867
Paints and Enamels Prepared.....cwts.	32,237	42,956	112,044	136,230
All other Sorts .... ,,	52,695	57,995	96,115	97,029
Total ..... ,,	132,705	156,704	306,364	343,736
Total of Chemicals, Drugs, Dyes, and Colours ...value	—	—	1,987,025	2,185,502

Re-Exports

	Quantities. Month ended June 30.		Value. Month ended June 30.	
	1927.	1928.	1927.	1928.
CHEMICAL MANUFACTURES AND PRODUCTS—				
Acid Tartaric.....cwts.	120	70	746	599
Borax..... ,,	59	257	70	256
Coal Tar Products value	—	—	3	20
Potassium Nitrate (Saltpetre).....cwts.	375	201	400	335
Sodium Nitrate .. ,,	1,132	872	803	453
Tartar, Cream of .. ,,	754	358	3,318	1,780
All other Sorts ...value	—	—	54,961	25,954
DRUGS, MEDICINES, ETC.—				
Quinine and Quinine Salts .....ozs.	15,229	63,712	1,708	5,453
Bark Cinchona (Bark Peruvian, etc.)..cwts.	207	278	879	1,108
All other Sorts...value	—	—	29,344	31,279
DYES AND DYESTUFFS—				
Cutch .....cwts.	542	1,474	936	2,440
All other Sorts .... ,,	81	452	668	2,187
Indigo, Natural ... ,,	—	5	1	124
Extracts for Tanning ,,	1,538	929	2,077	1,184
PAINTERS' COLOURS AND MATERIALS.....cwts.	1,675	1,904	4,208	5,583
Total of Chemicals, Drugs, Dyes and Colours ...value	—	—	100,438	79,800

Fluorine Compounds and Cancer

To the Editor of THE CHEMICAL AGE.

SIR,—Some time ago you published a letter from me on the subject of cancer and the possible influence of fluorine compounds, as contained in cereal foods or other plant foodstuffs, as well as in animal tissues, on the spread, or curtailment, of the cancer infection. In view of the conference on cancer it might be possible for your journal to draw attention again to the bare possibility that an element apparently neglected in medical practice, fluorine, might in some form of combination act as an inhibitor or perhaps as a curator or ameliorator of the actual affection.

I cannot help thinking that a substance of the enormous activity of fluorine, even in the form of calcium or magnesium fluoride, or as a double salt of one of these elements with potassium, as it exists in wheat of *normal* growth, must have some effect, in addition to forming "teeth" material, on animals ingesting the same. If you watch patches of ground where fluorspar outcrops, as you may in some parts of Derbyshire and Cumberland, its effects on certain kinds of vegetation are plainly to be observed.

In my previous letter I suggested the trial of some fluorine compounds as direct anti-cancer substances. I do so again, with diffidence, of course, being only a "chemical chemist." I have never found a fluoride to be a component of a medicine, but I cannot imagine that fluorine was made to be restricted in use to etching glass and a few like trivial employments.—Yours, etc.,

W. R. HODGKINSON.

Blackheath.
July 16, 1928.

Motor Coach Tours in the Ardennes

THE Belgian National Railways since June 15 have been running daily motor coach tours through the Ardennes. They will run until September 15, starting in one case from Jemelle and in another from Liège. The itinerary from Jemelle, leaving at 9.45 a.m., is through St. Hubert, Bouillon Chateau d'Ardenne, returning to Jemelle at 6.25 p.m. From Liège, departure at 9.30 a.m., the journey is through Spa, Barrage de la Gileppe, Malmédy, Waterfalls of Loo, Aywaille, the arrival back at Liège being timed for 6.10 p.m. Tickets may be obtained 10 days in advance from the special Bureau for motor excursions at the Nord Station, Brussels. A reduction of 35 per cent. is granted on all railway tickets issued in connection with a ticket for one of the tours. The tickets are 65 francs if a railway ticket has been taken and 70 francs if a ticket is taken for the circular tour alone.

A General Chemical Council

To the Editor of THE CHEMICAL AGE.

SIR,—The report of the Registration Committee of the British Association of Chemists, approved by the Council in July 1927, emphasised the necessity for the formation of a General Chemical Council before any scheme of registration could be proceeded with; but quite apart from its usefulness in this direction, it might well serve the purpose of fostering a spirit of co-operation between the various chemical societies.

Leaving aside other considerations the question of finance alone seems to make the possibility of a Chemistry House a dream of the distant future, but it surely should be possible to begin the building of one in the abstract, even if the material symbol cannot yet be realised.

It has occurred to us that a General Chemical Council might do a great deal to foster this spirit for the following reasons: It is clear that the representatives of the various societies composing it would meet to consider questions of policy about which all of us are more or less agreed. They would be ones concerning the welfare, direct or indirect, of the profession of chemistry as such, and would not, therefore, involve procedure which would come into collision with the aims and objects of any particular society. This is not to say that there would be complete agreement upon all points, since a certain amount of controversy is necessary to healthy procedure. But controversy would not turn upon the end in view, but upon such matters as ways and means of attainment. Secondly, a General Chemical Council is not a society, and necessary, or shall we say inevitable, as societies are, never yet was a society made whose policy did not come into collision with somebody or something. The General Chemical Council, on the other hand, would be, like the molecule, perfectly elastic, and every one would agree, I suppose, that collision with a molecule is to be preferred to the impact of a cricket ball.

There is, undoubtedly, a case for a venture of this kind; that of an independent body linking up the societies without being of them, and engaged with problems common to every society, and for that matter, every individual chemist, but peculiar to none. Again, the spirit of a Chemistry House would be obtained without the expense attending its material realisation, and it is, after all, the spirit that quickens. Some expenditure would be involved, but it would not be such as to constitute an insuperable obstacle to the formation of the Council.

We consider that this matter merits the close attention of all chemists, and particularly those—and there are not a few of them—who regard membership of any and all societies as lending support to a faction concerned with nothing other than its own privileges or supposed rights.—Yours, etc.,

HENRY T. F. RHODES, General Secretary,
175, Piccadilly, W.1. British Association of Chemists.

Deaths in Fire at B.D.C. Works

A FIRE that occurred on Monday in a shed at the works at Turnbridge, Huddersfield, of the British Dyestuffs Corporation resulted in the deaths of two men and burns to three others. A number of other men had narrow escapes from being caught by the sheet of flame that enveloped the building. A number of workmen were engaged in steaming out some pipes in an ethyl chloride shed, when suddenly there was a sheet of flame. The fire spread quickly. It soon burned through the roof and caused some damage to the plant in the shed. It was impossible for some time to get near the burning building, owing to the intense heat, and though several rescue attempts were made, helpers were forced to retreat. The two men killed were Thomas Mullarkey, of 40, Oldfield Square, Lockwood, and Edgar Blagburn, of 3, Garforth Street, Aspley, who were enveloped in flames when the fire started. Their bodies were almost unrecognisable. The injured men were Frank Leonard, of 49, Castlegate, R. Lamb, of Leeds Road, and Fred Needham, of Quarmby Fold. They were all removed to the infirmary after attention by the works ambulance corps, and it was found necessary to detain Leonard in the institution. He had burns on the legs, arms, and head. Lamb and Needham were burned about the face and hands, and were sent home from the infirmary. Mr. C. H. Shaw, one of the assistant chemists on the plant, made an unavailing attempt at rescue, but he was driven back by the flames.

Mond Nickel Co. Meeting

THE annual general meeting of the Mond Nickel Co., Ltd., was held in London on Thursday, July 12, Lord Melchett (chairman of the company) presiding. Lord Melchett, in the course of his speech, referred to the increased demand for nickel and nickel products. At the Frood mine of the company investigation had shown the existence of an ore body rich in copper. The use of nickel was increasing in every country in the world. The company derived a very considerable revenue from the sale of precious metals of the platinum group. There were several disturbing elements in the platinum market, and some kind of stabilisation among platinum producers must and would take place. In order to add to the ease of marketing the ordinary shares, it was proposed to divide them each into two 10s. shares. A large amount of capital would be needed in the next few years for purposes of development, and the directors therefore proposed that the ordinary capital should be increased from £900,000 to £1,500,000. 600,000 of the new 10s. shares thus created would be offered at a price of £3 15s. to the ordinary shareholders, the market value being about £4 10s. A number of these shares, not exceeding 100,000, were to be reserved for allocation to persons actually concerned with the management on such terms as the board might decide.

The retiring directors were all re-elected.

An extraordinary general meeting and a meeting of the ordinary shareholders were then held, and resolutions confirming the sub-division of the shares and the increase of capital were carried unanimously. A confirmatory meeting will be held on July 27.

Distillers Company's Research Station

IN the course of the annual general meeting of the Distillers Co., held at Edinburgh on Thursday, July 12, references were made to the new research laboratories (an exhaustive account of which appeared in these columns in the issue of June 30). Mr. W. H. Ross (the chairman) said that the company now had a very fine research station, but its possibilities were necessarily limited unless combined with the expert activities of other companies both here and abroad. Many contacts of that nature had already been formed and others were in contemplation, the result of which would be the broadening of their basis of operations and the strengthening of their position as an industrial company. Sir Alexander Walker, in seconding the adoption of the report, stated that they were proceeding just now to establish a very large number of first-class chemists in their research laboratory, and with them they were in association with such laboratories in other parts both of Europe and America. With the exchange of information, it was thought that with regard to possible developments of articles of produce, not directly or indirectly, from alcohol, they might consolidate the concern and ensure that even in the event of potable alcohol not being saleable to the extent which it had been in the past, these developments would provide a sufficient source of income from a completely new direction.

Imperial Chemical Extensions in Canada

REPORTS from Edmonton, Alberta, indicate that Imperial Chemical Industries have secured a one-year option dating from April, 1928, on a block of 12,000 acres of bituminous sands between McMurray and McKay in northern Alberta, which are the properties of the Hammerstein Syndicate and the Athabasca Oil and Asphalt Co.

As reported recently, a substantial interest in the Malagash Salt Co., Ltd., has been acquired by Imperial Chemical Industries, who have retained Dr. Hayes, a New Jersey geologist, to ascertain the extent of present development, with attention to the possibilities of the recovery of potash found associated with rock salt deposits of the Malagash Peninsula. Development of salt mining at Malagash has progressed steadily from a production of 174 tons in 1919 to over 8,000 tons in 1926. During the past year the capacity of the mining, hoisting and crushing plant has been greatly increased and better transportation facilities have been provided. Among the latest additions to the property is a modern evaporating plant. The daily output of salt is now reported to be 125 to 150 tons per day.

Chemical Matters in Parliament

The De-Rating Scheme and Gas Companies

Mr. Clarry (House of Commons, July 17) referred to the anomalous situation which arose from the exclusion from the Rating and Valuation (Apportionment) Bill of one of the greatest industries in this country. Public utility undertakings were excluded, including companies. The gas companies regretted that they were not permitted to take part in the de-rating scheme. With regard to the by-product portion of their production they were unlike other public utility companies, and he thought they had a clear case for rate relief. The House would agree that in by-products production those companies had to meet competition in the domestic markets of the country. Coke oven undertakings produced an equal quantity of coke, and also tar which was used for road purposes. The same applied in a considerable degree to sulphate of ammonia and synthetic ammonia, and in the case of the latter, in addition to the competition in the domestic market, they had to compete with world-wide prices. At present, those undertakings did not benefit from the proposals contained in this Bill in the shape of rating relief. Undoubtedly, coke-oven production was making a strong bid for the domestic market in this country. The relief would not benefit any industry unless it had the effect of reducing the price of the commodities made by the producer. Therefore it was reasonable to expect that coal tar, sulphate of ammonia, and so on, would be lower in price. As gas undertakings obtained 25 per cent. of the whole of their revenue from the by-product portion of their production, it would be seen that this was a very serious matter to them, and it could only have one result, namely, a lower price for by-product commodities. This in itself was bound to react on the price of gas to the consumer, because the total revenue had to be made up somehow. Gas undertakings urged that they were entitled to the benefit of de-rating to the extent of 75 per cent. on the 25 per cent. of their revenue which was derived from the by-products portion of their production. He thought that case had been made out.

Action Regarding Power Station Fumes

AFTER a hearing lasting two days, Mr. Justice Talbot, at Manchester Assizes, on Tuesday, gave judgment for the defendants, but without costs, in the action brought by Mr. A. Farnworth, of Bromyhurst Farm, Barton, for damages and an injunction against the Manchester Corporation, in respect of the Barton Power Station. The allegation was that the sulphur fumes emitted from the chimneys seriously damaged the plaintiff's crops and land, and other land in the neighbourhood, and constituted a nuisance to the residents and firms whose works were within a certain area. During the evidence it was revealed that the amount of sulphur distributed into the air each day in some form or another was about ten tons. The fumes shown in photographs exhibited contained 300 times as much sulphur as the ordinary thick Manchester fog. Samples of grass, wheat, oats and cuttings from trees and hedges, were produced to show the nature of the damage, and the plaintiff stated that his cattle would not graze on certain portions of his fields.

Mr. Lamb, chief engineer of the station, said the Manchester Corporation had been unable to find any effective remedy. Mr. Atkinson K.C. (for the defence) submitted that if the station constituted a nuisance it was a nuisance which was inevitable, and which had been sanctioned by Parliament. Mr. Singleton, K.C. (for plaintiff), contended that the trouble was due to the particular construction and working of this station, and that the Corporation were liable because they had not taken precautions at the outset to prevent the nuisance, nor called in expert advice since to see what could be done to remedy it.

Summing-up, Mr. Justice Talbot said he was satisfied that the Corporation had seriously considered the matter, and had shown as far as they could that there was no means which science or knowledge could suggest by which they could get rid of the nuisance. They, therefore, succeeded on the ground that what would otherwise be an actionable nuisance had been sanctioned by Parliament. He felt, however, that in this case it would not be right to subject the plaintiff to payment of costs, and judgment would therefore be without costs.

Arsenic in Acid Calcium Phosphate

£71 Damages Against London Merchants

THE reserved judgment in a case of considerable importance to the chemical trade was delivered by Judge Moore, at the Southwark County Court, on Monday. The action was in connection with a claim by John Simons, of London, a baking powder manufacturer, against Smith Hughes and Co., of College Hill, London, chemical merchants, to recover £71 13s. 2d. for breach of warranty in supplying 20 1 cwt. kegs of acid calcium phosphate, which the defendants, it was alleged, expressly warranted to be of the nature, substance and quality described, and to comply with the Food and Drugs Acts.

His Honour found that the consignment of acid calcium phosphate sold and delivered by the defendants to the plaintiff in September, 1927, was not of the nature, substance and quality described in the invoice, and that therefore a breach of warranty had been established. He was satisfied that the baking powder which formed the subject matter of a prosecution at Sible Hedingham was made by the plaintiff with acid calcium phosphate taken from the consignment supplied by the defendants, and it was clear from Dr. Dyer's evidence that that baking powder was contaminated with arsenic to the extent of about nine parts in a million. The outside permissible limit of contamination, he held, should be four parts to the million in acid calcium phosphate, which would mean 1·4 parts to the million in baking powder. He therefore found that contamination to the extent of six to seven parts was excessive and constituted a breach of warranty. Judgment was entered for the plaintiff for the sum claimed, £71 13s. 2d., and costs. An application by Mr. Parry (counsel for the defendants) for a stay of execution in view of an appeal was agreed to.

I.C.I.'s Offer to Welsbach

A FURTHER expansion of the subsidiary activities of Imperial Chemical Industries is indicated in the offer by the directors announced on Wednesday to acquire the share capital of the Welsbach Light Co., the well-known manufacturers of gas mantles and electric and oil heating appliances. The basis of the offer is the exchange of one Imperial Chemical fully-paid ordinary share of £1 for every two Welsbach £1 shares, together with one Imperial deferred share in respect of every 20 Welsbach shares. The issued capital of the Welsbach Company is £257,925, but the shares are currently quoted at about 14s., giving a market capitalisation of some £180,000. The exchange will involve the issue of 128,912 Imperial ordinary shares and 12,891 deferred shares, worth, at to-day's prices of 38s. and 14s. per share respectively, over £250,000.

The acceptance of the offer is recommended by the Board of the Welsbach Co., who state that the form of assent to be issued in a few days will be accompanied by the accounts for the year to March 31 last containing a declaration of a dividend of 2½ per cent. against 6 per cent. for the previous year. The offer is subject to withdrawal after August 14 next if not then accepted by the holders of 76 per cent. of Welsbach shares.

Cocaine Manufacture

IN the report for 1927 of the British Government to the League of Nations, on the traffic in opium and other dangerous drugs, it is stated that a Home Office licence has been granted to May and Baker, Ltd., to carry on experiments in the production of cocaine from the leaves of the coca plant and the refining of crude cocaine at their laboratory in Bell Lane, Wandsworth. Under the terms of the license the firm was precluded from disposing of the products of their experiments without the special permission of the Home Office. In an addendum to the report, however, it is stated that since the close of 1927 May and Baker have been given licences which authorise them to dispose of the cocaine manufactured by them.

Statistics in the report show that the manufacture of morphine is down by over 7,000 oz., and the exports down by a similar amount. The manufacture of heroin increased by over 6,000 oz., and the exports by over 4,000 oz. France took 4,610 oz. more heroin than in 1926, but 5,595 oz. fewer of morphine. Imports of cocaine during the year were about 16,000 oz.

Town Planning and Industrial Needs

An F.B.I. Report

THAT no town planning scheme is complete without careful study of the varied requirements of industrial concerns forms the text of a report just prepared by the Federation of British Industries at the request of the Greater London Regional Planning Committee.

The Federation stresses the fact that many industries require particular local conditions to enable them to be satisfactorily operated. For example, closeness to good transport facilities by water or rail is necessary to all trades producing articles of large bulk or weight in relation to their value. Conversely, those producing small articles of high value will be better served by good communication by road. Again, other industries depend upon ample supplies of water for the purpose of their processes. Many trades are compelled to produce a considerable volume of smoke or dangerous fumes by their processes, and it is important that these must be situated in a district which is not too thickly populated. Others require good light for their processes, and they must therefore have plenty of space around the works.

There are many industries where factories could be established on any site where transport facilities and labour are reasonably adequate. Having regard to the fact that there is a distinct tendency for many trades to move to the neighbourhood of London, there is little doubt that if particular areas were set apart for the establishment of factories and the fact were made generally known, manufacturers would be induced to establish works on such sites as were reasonably suitable to them. The Federation realises that it may be necessary to make restrictions as to the localities in which factories may be erected, but submits that in the interests of the free development of industry and employment, restrictions should be imposed as sparingly as possible.

In many areas difficulties are constantly arising owing to the material requirements regarding atmospheric and water purity being so varied. It may be worth considering whether some method of segregating trades is possible. For instance, where industries are drawing water from natural channels the presence of a noxious effluent higher up the stream may render the activity of an industry lower in the stream very difficult.

Perhaps of more importance, however, is the atmospheric aspect. Certain industries, such as food manufacturing, printing works, etc., need clean air, and consequently the proximity of certain types of chemical works or works which cannot be satisfactorily run without some form of smoke or vapour effluent are prejudicial to them. The question, therefore, of zones for clean trades and noxious trades needs consideration.

Increasing Demand for Oxygen

MR. K. S. MURRAY, chairman and managing director of the British Oxygen Co., Ltd., presiding at the general meeting of the company in London on Thursday, July 12, said that there was a steady increase in the demand for oxygen. For some time past the company had been considering and experimenting with the method of transporting oxygen in the liquid state, by which means it was hoped to effect further economy in supplies to large consumers. As regards the supply of other gases, conditions throughout the year had been satisfactory, more especially with regard to the sales of carbon dioxide and nitrous oxide, both of which had been considerably increased. The engineering business at Edmonton had been well maintained, and, in order to cope with increasing production, more especially in the manufacture of heavy plant such as gas compressors, oxygen producing units, and metal cutting machines, building extensions were at present being carried out at the company's Edmonton works.

The John Benn Hostel Ballot

READERS should not forget that there is still time to enter for "The Boys' Ballot," and win the saloon motor car or one of the 350 other prizes. Offers of further help in ticket selling will be greatly appreciated. Tickets, prize lists, and all particulars from the Ballot Organiser, c/o Sir Ernest Benn, Bart., Bouverie House, Fleet Street, E.C.4. Tickets 1s. each; book of 11 tickets, 10s.

From Week to Week

THE ADDRESS OF Robert Whitehead, sole agent in the United Kingdom for the Berndorf Metal Works, has been changed since June 28 to Premier House, 12, Hatton Garden, London, E.C.1.

MR. PERCY ELLIS, analytical chemist to the Anglo Oil Co. at Llandarcy, near Swansea, was married last week at Cardiff to Miss Ada May Griffiths, a member of the nursing staff of the Cardiff Royal Infirmary.

THE NEW RESEARCH LABORATORIES of the Gas Light and Coke Co. will be opened on Thursday next. After luncheon at Horseferry Road, Westminster, Sir Richard Threlfall, F.R.S., will formally open the laboratories at the Fulham works.

THE WELL-KNOWN FRENCH CHEMICAL COMPANIES Société Chimiques des Usines du Rhône and Etablissements Poulenc Frères have now been united. The new company is known as Société des Usines Chimiques Rhône-Poulenc, and has a capital of 30,000,000 francs.

THE NEW JUSTICES OF THE PEACE for Exeter include Mr. A. C. Thomas, managing director of J. L. Thomas and Co., soap manufacturers, Exeter and Bristol. Mr. Thomas was the first chairman of the traders' panel of the local joint committee set up under the Railway Act of 1921 to assist traders to make satisfactory arrangements with the companies in connection with the new tariff rates.

DR. JAMES OLIVER, in a letter printed in *The Daily Telegraph* on Wednesday, points out certain defects in the Food and Drugs (Adulteration) Bill, known as the "Act to consolidate the Sale of Food and Drugs Acts," now in the hands of Members of Parliament. "If," he says, "our Food and Drugs Act is to be effective and efficient the position can only be met adequately by the proclamation of definitions and the establishment of standards of purity for food products."

PROFESSOR J. F. THORPE, F.R.S., president of the Chemical Society of London, represented the Society at the Liebig-Wöhler celebrations held at Darmstadt on July 7, in connection with the re-erection of the house in which Liebig was born in 1803. Representatives were also present of chemical bodies in France, Denmark, Holland, Japan, Sweden, Switzerland, Spain, and Austria. Dr. Bosch and Professor Haber were presented by the University of Darmstadt with the degree of Doktor-Ingeneur for their work on ammonia synthesis.

THE ANNUAL MEETING of the American Chemical Society has been fixed for the week following the annual meeting of the Society of Chemical Industry in New York. The meeting for the first time, is to be held at a seaside resort, Swampscott, about twelve miles north of Boston, and the Ocean House and other large hotels have been engaged for the exclusive use of the members. It is probable that as the British meeting ends on Friday, September 7, some of the delegates will attend the American meeting, and return by the Cunard liner *Scythia* which, most conveniently, is timed to leave Boston for Liverpool on Thursday, September 13.

MR. WASHINGTON SINGER'S GIFT of £25,000 to the University College of the South-West, Exeter, for the building of a chemistry laboratory, has been mentioned in these columns. It had been decided to build a new physics laboratory on the recently acquired 100-acre site on the Streatham Estate, Exeter, and the cost of that building will be met with moneys raised by the general appeal. The welcome and generous gift of Mr. Washington Singer will enable the Council of the College to provide for the departments of chemistry and physics in the same block. The building will be the first contribution to the University building scheme, and will be a considerable relief to the growing congestion in the present buildings.

MR. JUSTICE ROMER, in the Chancery Division, on Wednesday, July 11, heard a motion by Sissons Brothers and Co., Ltd., of Hull, paint and varnish manufacturers, by which they asked for an injunction restraining Mr. Arthur Donald Watson, of Beverley Road, Hull, from being engaged in any competing business in Great Britain and Ireland for a period of fifteen years after he left the plaintiffs' service. It was alleged that in breach of his agreement of service the defendant entered the employ of Mander Brothers, Wolverhampton, who were stated to be competitors of the plaintiffs. His Lordship held that there was a *prima facie* case in favour of the relief asked for, and he granted an injunction until the trial of the action.

CHARLES DANIEL MASSEY, of 24, Vine Street, Runcorn, was awarded £825 compensation at the Runcorn County Court on Tuesday, July 11. Massey met with an accident in 1922 when employed at the Castner Kellner works at Weston Point, as a result of which he lost his right eye. Later he suffered from ophthalmia in the remaining eye. Mr. R. R. Smylie, on behalf of the employers, told, Judge Whitmore Richards that the parties had come to terms subject to the judge's approval. They had agreed upon a payment of £825 to Massey, and an additional £75 costs. Mr. Maxwell Fyfe, who appeared for Massey, said he had given the matter very careful consideration, and had advised his client to accept the offer. His Honour concurred in the agreement.

THE I.G. FARBENINDUSTRIE A.-G. has acquired from the Aluminium und Magnesium Fabrik A.-G. a three years' licence to exploit that company's process for the production of the alloys of magnesium and the refractory metals.

BEET SUGAR NEWS.—A beet sugar factory is to be built at Norton Fitzwarren, near Taunton, by Sugar Beet and Crop Dryers, Ltd., which has purchased the rights of the Oxford process of sugar manufacture, lately introduced by Dr. Owen.

BEIT MEMORIAL FELLOWSHIPS have been awarded to the following, among others: Dr. J. H. Quastel, of Cambridge, Meldola Medallist of the Institute of Chemistry; Dr. P. W. Clutterbuck, assistant lecturer in physiological chemistry in the University of Manchester; and Mr. D. R. McCullagh. Dr. Quastel and Mr. McCullagh will work in the Biochemical Laboratory at Cambridge, and Dr. Clutterbuck at the Lister Institute, London.

BOOT'S PURE DRUG CO., LTD., are about to embark on an extensive scheme of development at Beeston, Notts. Some time ago they acquired 200 acres of land there and on this a new soap factory is to be built, in addition to new roads and railway sidings to deal with the output. Bromley and Watkins are the architects, and the contract for the building of the new factory has been placed with Swift Bros. and Haslam, Ltd., of Doncaster.

DURING THE BRITISH ASSOCIATION MEETING in Glasgow, beginning on September 5, there will be, in the Chemistry Section, a series of discussions on current problems in chemistry, such as fermentation, light reactions, and stereo-chemistry. There will also be an exhibition of cinematograph films lent by Imperial Chemical Industries, Ltd., Kodak, Ltd., and Sir James Irvine. The Ardeer Factory of Nobel's Explosive Co. and other works will be visited.

LOW TEMPERATURE CARBONISATION, LTD., have issued a circular stating that during the past few weeks, the season of year when fuel sales are usually at the lowest, the demand for coalite has so increased that it has become necessary to start a fifth battery. Since operations began last July 50,000 tons of small coal have been distilled, yielding approximately 35,000 tons of coalite, 1,000,000 gallons of coal oil and motor spirit, and 250 million cubic ft. of rich gas. Costs of operation have been reduced until they are under 5s. a ton. All the coalite and by-products continue to be sold at satisfactory prices.

UNIVERSITY NEWS.—*Exeter*:—At a meeting of the Council of the University College of the South-West on Thursday, July 12, the resignation was received of Dr. S. Glasstone, lecturer in physical chemistry and warden of Grendon House, on his appointment to the University of Sheffield. Dr. Hubert T. S. Britton was appointed lecturer in physical chemistry, and Dr. I. Levine, M.A., warden of Grendon House. Mr. Edward C. Wray was appointed honorary lecturer in the chemistry of dyestuffs. Mr. D. J. Branscombe was appointed demonstrator in chemistry.—*Bristol*: The degree of D.Litt. has been conferred on Mr. E. J. Holmyard, head of the science department at Clifton College.

MR. R. W. SINDALL has retired from active business on account of ill-health, and the partnership formerly existing between him and Mr. W. N. Bacon has been dissolved by mutual consent as from June 29, 1928. The business of Sindall and Bacon will be carried on by Mr. William N. Bacon at the same address, 27, Walbrook, London, E.C.4. Mr. Sindall has been connected with the paper trade since 1890. In 1902 he set up in practice as a consulting chemist to the pulp and paper trades, fitting up offices and laboratory at the London Chamber of Commerce Buildings, Oxford Court, Cannon Street, London, E.C. In 1911 he went into partnership with Mr. W. N. Bacon under the now well-known name of Sindall and Bacon.

ARTIFICIAL SILK NEWS.—The Alliance Artificial Silk Co., Ltd., which has been formed under the auspices of the International Artificial Silk Co., Ltd., will make an issue of 4,680,000 shares of 5s. each in the course of the next few days. The company is acquiring the exclusive rights for the manufacture within the British Empire and the sale throughout the world of cellulose acetate and the spinning of high-grade acetate artificial silk by the purchase of the processes and patent of Syntheta, A. G., Basle, Switzerland.—The scheme already announced for making certain changes in the capital of British Celanese, Ltd., was agreed to unanimously at meetings of the shareholders in London on Monday. At an extraordinary general meeting which followed, a resolution was passed authorising the capital of the company to be increased to £10,450,000 by the creation of £3,500,000 new first preference shares of £1 and £1,900,000 new ordinary shares of 10s. each.—Harbens (Viscose Silk Manufacturers) state that for the past two months production has been brought up from 9 tons to 18 tons per week, and now it is proposed to raise the weekly figure to 25 tons. For this £125,000 additional capital is needed, and it will be offered in 250,000 ordinary shares at 4s. each, and 60,000 £1 first cumulative participating eight per cent. preference shares at a premium of 5s. each. The ordinary shares will be offered to the board.

Obituary

HORACE G. CARELL, well known in the United States alkali industry, on May 17, aged 55.

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The condensation of ketones with ethyl acetoacetate. L. G. Jupp, G. A. R. Kon, and E. H. Lockton. *J. Chem. Soc.*, June, pp. 1638–1644.

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CATALYSIS.—Catalysts for the formation of alcohols from carbon monoxide and hydrogen. Part I. Deposition of methanol by catalysts composed of copper and zinc. K. Frolich, M. R. Fenske and D. Quiggle. *Ind. Eng. Chem.*, July, pp. 694–698.

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Characteristics and treatment of insulating varnishes. P. B. Cochran and H. J. Graham. *Ind. Eng. Chem.*, July, pp. 698–701.

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The following information is prepared from published Patent Specifications and from the Illustrated Official Journal (Patents) by permission of the Controller to H.M. Stationery Office. Printed copies of full Patent Specifications accepted may be obtained from the Patent Office, 25, Southampton Buildings, London, W.C.2, at 1s. each.

Abstracts of Complete Specifications

291,888. Dyestuffs from Indoline Bases, Manufacture of. W. Carpmael, London. From I.G. Farbenindustrie Akt.-Ges., Frankfort-on-Main, Germany. Application date, March 11, 1927.

A 1 : 3 : 3-trialkyl-2-methylene-indolene or a substitution product is condensed with an ester or salt of nitrous acid in the presence of acetic anhydride as a condensing agent. The reaction may be effected in the presence of a solvent, and examples are given.

291,965. Naphthalene Derivatives, Manufacture of. O. Y. Imray, London. From I.G. Farbenindustrie Akt.-Ges., Frankfort-on-Main, Germany. Application date, June 16, 1927.

Mono-sulpho derivatives of 2-hydroxy-naphthalene-6-carboxylic acid are obtained by treating with sulphuric acid of at least 1.82 specific gravity. If sulphuric acid of 66° Bé. is used at 50°–80° C., a mixture of mono-sulphonic acids is formed which may be separated by means of the different solubilities of neutral alkali metal salts. If sulphuric acid containing free anhydride is used at 20°–50° C., 2-hydroxy-naphthalene-6-carboxy-disulphonic acid is obtained. This may be diluted with water and warmed to obtain 2-hydroxy-naphthalene-3-monosulpho-6-carboxylic acid. This acid is colourless and soluble in hot water and dilute alkali carbonate solutions which show a blue fluorescence. The acids are used as intermediates for the production of dyestuffs.

292,059. Esters, Manufacture of. I.G. Farbenindustrie Akt.-Ges., Frankfort-on-Main, Germany. Application date, January 31, 1927. Addition to 265,233.

Specification No. 265,233 (see The Chemical Age, Vol. XVI. p. 381) describes the production of monoesters of glycol or its homologues from alkylene oxides and organic carboxylic acids in the presences of their alkali metal salts as catalysts. It is now found that salts of strong bases and other organic acids, mineral acids or their acid salts can be used as catalysts. An example is given of the treatment of ethylene oxide with glacial acetic acid in the presence of sulphuric acid.

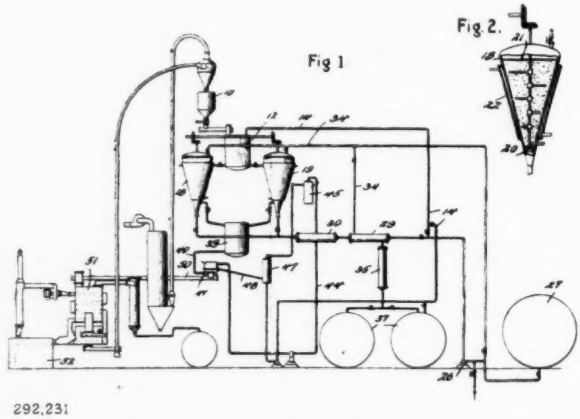
292,186. Sulphuretted Hydrogen or Sulphides from Sulphur, Manufacture and Production of. J. Y. Johnson, London. From I.G. Farbenindustrie Akt.-Ges. Frankfort-on-Main, Germany. Application date, January 10, 1927.

Sulphur, polysulphides, thiosulphates, etc., and other inorganic sulphur compounds are treated with hydrogen at a pressure of about 100 atmospheres and temperature below 200° C., to obtain sulphuretted hydrogen. The reaction is preferably effected in the presence of aqueous ammonia or solutions of the hydroxides of the alkali or alkaline earth metals, the sulphuretted hydrogen being obtained as sulphide or hydrosulphide. The hydrogen may be replaced by carbon monoxide, but the reaction is slower. The reaction can be accelerated by the action of catalysts such as silica gel, alumina, active charcoal, heavy metals or their oxides, hydroxides, sulphides, carbonates, particularly metals of the eighth group. Several examples are given of the treatment of polysulphides, etc., with hydrogen, showing an increase of monosulphide sulphur in the solution.

292,231. Refining Liquid Hydrocarbons. H. Wade, London. From the Silica Gel Corporation, 1,100 Garrett Building, 239 Redwood Street, Baltimore, Md., U.S.A. Application date, March 14, 1927.

The process is for refining gasolene, kerosene, benzene, etc., to secure the required standard respecting the sulphur content, colour, odour, acid content, sweetness, corrosion and gums. To remove sulphur only, the hydrocarbon is treated at 300° F. with the hard highly porous silica gel described in Specification No. 136,543 (see The Chemical Age, vol. ii, p. 210), which will absorb vapours and gases at very low partial pressures. To treat the hydrocarbon for sweetness and all other requirements except gums, it is heated to about 300° F. with the silica gel impregnated with 1 per cent. of copper or iron oxides. To treat the hydrocarbon for the removal of gum-forming constituents, the silica gel is impregnated with the metallic oxides, and a small amount of sulphuric acid is also added to the adsorbent or to the hydrocarbon.

The adsorbent is conveyed from a hopper 10 to an agitator 12, and the hydrocarbon is supplied through a pipe 14, and



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the mixture passes to one of the percolators 18, 19. Each percolator has a steam jacket 22, and the mixture of adsorbent and liquid fills the space between the two screens 20 and 21. The hydrocarbon is drawn from a tank 27 by a pump 26, and passes through heat exchanger 29 and heater 30 to the percolators. The refined hydrocarbon passes through pipe 34 to heat exchanger 29, and then through cooler 35 to tanks 37. While one percolator is being used, the adsorbent in the other passes to agitator 39, and thence to vacuum filter 41. The suction of the vacuum pump is connected by pipe 44 to a moisture trap 45 and vacuum receiver 47, into which the filtrate passes through pipe 48. The adsorbent is conveyed through pipe 50 to an activator 51, where it is treated with hot gases from the furnace 52. The adsorbent then passes to a second activator heated to a higher temperature by some of the furnace gases which are diverted through it. The method of preparing the silica gel with copper oxide and acid is described in detail.

292,253. Phospho-Tungsto-Molybdenum Compounds and Lakes therefrom, Manufacture of. W. Carpmael, London. From I.G. Farbenindustrie Akt.-Ges., Frankfort-on-Main, Germany. Application date, March 17, 1927.

Specification No. 216,486 (see The Chemical Age, vol. xi, p. 124) describes the reaction between tungstates, molybdates and phosphates to obtain two different complex acids of the series having the formulæ :

$$(a.WO_3+b.MoO_3)P_2O_5.3H_2O, \text{ where } a+b=24$$
$$(c.WO_3+d.MoO_3)P_2O_5.3H_2O, \text{ where } c+d=18.$$

The new compounds are obtained by the action of reducing agents, such as sulphurous acid, bisulphite, hydrosulphite, grape sugar, etc., on the above acids. The compounds are suitable for the manufacture of lakes of basic dyestuffs or acid dyestuffs containing beside sulpho groups free or unsubstituted amino groups.

292,298. Montan Wax, Purification of. J. Y. Johnson, London. From I.G. Farbenindustrie Akt.-Ges., Frankfort-on-Main, Germany. Application date, April 8, 1927.

Crude montan wax contains resin acids, fatty acids, etc., and wax esters similar to those contained in carnauba wax. The wax esters are separated from the acids by treating with hot concentrated acetic acid either the crude wax or wax

which has been freed from resins. Examples are given of the treatment of crude wax and de-resinified wax.

292,307. FREE CHLORINE AND BROMINE FROM FLUID MIXTURES, REMOVAL OF. British Dyestuffs Corporation, Ltd., Hexagon House, Blackley, Manchester. J. B. Payman and H. A. Piggott, Dalton Works, Huddersfield. Application dates April 27 and May 4, 1927.

The process is to remove free chlorine and bromine from hydrochloric or hydrobromic acid gas from the chlorination and bromination of organic products. This is done by passing the acid vapour through solid naphthalene or other solid hydrocarbon capable of forming additative products—e.g., anthracene, solid olefins, etc. The process is also applied to liquid hydrochloric or hydrobromic acid obtained by absorption of the gas in water.

292,334. ACID-PROOF STRUCTURES, PRODUCTION OF. J. K. Wirth, 49 and 50, Rudowerstrasse, Berlin-Altgliemicke, Germany. Application date, May 26, 1927.

Acid-proof bricks, slabs, etc., are cemented or joined by phenol-aldehyde compositions, which are hardened by the action of acids in the cold. The liquid artificial resin is preferably mixed with some filling material, and then treated with aqueous or alcoholic hydrochloric acid. Thus a mixture of liquid artificial resin and powdered hardened resin is treated with hydrochloric acid to obtain a composition which remains soft for one to two hours and sets in twenty-four hours to a mass which is acid proof and resists heat up to 130° C. This composition is particularly suitable for cementing substances which are slightly absorbent, but if the substanecs are non-absorbent alcoholic hydrochloric acid is used. As this composition is corrosive to metals, an iron or other like structure is first coated with an acid proof intermediate layer and then with the above mixture which is hardened by means of acid. The lining of iron apparatus is described in detail.

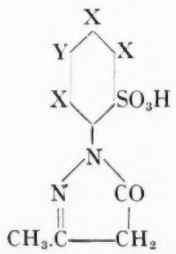
NOTE.—Abstracts of the following specifications which are now accepted, appeared in THE CHEMICAL AGE when they became open to inspection under the International Convention :—264,530 (I.G. Farbenindustrie Akt.-Ges.) relating to carbazole quinones, see Vol XVI, p. 317 ; 264,535 (I.G. Farbenindustrie Akt.-Ges.) relating to concentration of hydrogen peroxide, see Vol. XVI, p. 317 ; 267,959 (S. Stransky and F. Hansgirg) relating to refining of low-boiling distillates, see Vol. XVI, p. 535 ; 268,775 (I.G. Farbenindustrie Akt.-Ges.) relating to hydrocarbons and oxygen derivatives, see Vol. XVI, p. 559 ; 275,590 (A. Binz and C. Räth) relating to nitropyridine arsinic acids, see Vol. XVII, p. 331 ; 283, 509 (J. C. Seailles) relating to alumina, see Vol. XVIII, p. 248 ; 286,602 (I.G. Farbenindustrie Akt.-Ges.) relating to vat dyestuffs of the dibenzanthrone series, see Vol. XVIII, p. 440.

International Specifications not yet Accepted

290,230 and 290,253. DYES. I.G. Farbenindustrie Akt.-Ges., Frankfort-on-Main, Germany. International Convention date, May 10 and May 11, 1927.

290,230. A diazotized aniline-monosulphonic acid is coupled with 1- (2^1-chloro-5^1-sulpho) phenyl-3-methyl-5-pyrazolone to obtain monoazo dyes giving fast greenish-yellow shades on wool.

290,253. An aromatic diazo or tetrazo compound is coupled with a 1- (*o*-sulpho-halogen) phenyl-3-methyl-5-pyrazolone of the type



in which X is hydrogen or a substituent and Y is hydrogen or halogen. The 1- (*o*-sulpho-halogen) phenyl-3-methyl-5-pyrazolones are obtained from the hydrazone obtainable from the corresponding sulpho-halogen-phenyl-hydrazine and aceto-acetic ester.

290,568. METALLIC CHLORIDES. Vereinigte Stahlwerke Akt.-Ges., Stahlaus, Breitestrasse, Düsseldorf, Germany. International Convention date, May 14, 1927. Addition to 284,991. (See THE CHEMICAL AGE, Vol. XVIII, p. 39 (Metallurgical Section).

Iron and manganese chlorides which are volatilized in chlorinating ores are passed through magnesium oxide to remove hydrochloric acid and water. Alternatively, the chloride may be solidified while the hydrochloric acid and water remain gaseous.

290,602. INDIARUBBER. British Thomson-Houston Co., Ltd., Crown House, Aldwych, London. (Assignees of B. W. Nordlander, 19, North Ferry Street, Schenectady, New York.) International Convention date, May 16, 1927.

Rubber is vulcanized with a mixture of sulphur and selenium or tellurium obtained by fusing sulphur 45 parts and selenium 55 parts, maintaining the mixture just below fusion point for two hours, and grinding the product in a colloid mill. In another method of preparation hydrogen sulphide is passed through water to which selenious acid is added. Accelerators of vulcanization and other ingredients may also be used.

290,606. DESTRUCTIVE DISTILLATION. P. Girard, F. Petit, and A. Charbonneau, 9, Rue du President Carnot, Lyons, France. International Convention date, May 16, 1927.

Solid fuel is destructively distilled at 400°-450° C. in the presence of a halogen or halogen acid, or chlorides, or hypochlorites. The fuel or the entering gas may also be subjected to high frequency electric discharges.

290,613. ALCOHOLS AND ALDEHYDES. Empire Gas and Fuel Co., Dover, Del, U.S.A. (Assignees of J. C. Walker, 403, Frazier Street, Eldorado, Kans., U.S.A.) International Convention date, May 17, 1927.

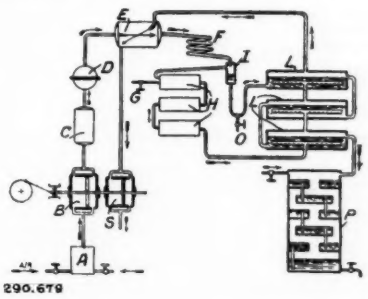
Natural gas or gas derived from coal, petroleum, or shale, is oxidized with a relatively small proportion of oxygen in the presence of a catalyst to obtain methyl and other alcohols, formaldehyde, acetaldehyde, or propionic aldehyde. The catalysts are those favouring dehydration, dehydrogenation or oxidation, including platinum, chromium, iron, copper, and their oxides. The temperature is kept at 800°-900° F. A suitable catalyst consists of 10 gm. of platinum in 1 cubic foot of pumice.

290,636. DYES. I.G. Farbenindustrie Akt.-Ges., Frankfort-on-Main, Germany. International Convention date, May 18, 1927. Addition to 276,408.

1-Amino-anthraquinone-2-sulphonic acids, substituted in the 4-position by an amino residue of a cyclic paraffin are obtained by heating the corresponding 2-halogen derivative under pressure with a neutral sulphite to replace the halogen by sulphonic groups. Thus, 1 - amino - 2 - brom - 4 - hexahydro-anilino-anthraquinone is heated in an autoclave with sodium sulphite, alcohol, and water, and the 1-amino-4-hexahydro-anilino-anthraquinone-2-sulphonic acid obtained by salting out.

290,679. NITRIC ACID. Montecatini Soc. Générale per l'Industria Minervaria ed Agricola, 35, Foro Bonoparte, Milan, Italy. International Convention date, May 20, 1927.

Air and ammonia pass from a vessel A to a compressor B and then at a pressure of 5-6 atmospheres through a filter C to contact chamber D. Nitric oxide and water are formed, and pass through a heat exchanger E and coil F to a separator



I. The nitric oxide passes to chambers H and oxygen is admitted at G to oxidise it to nitrogen peroxide. Water is passed through the chambers L and the nitrogen peroxide absorbed in it. The solution is oxidised with compressed oxygen at 40°-50° C. in the column P, and concentrated nitric acid is obtained.

290,649. AROMATIC ALDEHYDES. J. D. Riedel Akt.-Ges., 1, Riedelstrasse, Britz, Berlin. International Convention date, May 20, 1927. Addition to 285,451. (See THE CHEMICAL AGE, Vol. XVIII, p. 368).

o- and *p*-Propenyl-oxybenzenes are oxidized by nitrotoluene to the corresponding aldehydes. A mixture of isomeric propenyl-monomethyl-pyrocatechin ethers can be decomposed directly by oxidation of the alkali salts into a mixture of vanillin and iso-chavibetol, and the vanillin extracted. The mixture of alkali salts of the two propenyl-monoalkyl-oxymethyl-pyrocatechin ethers produced in the decomposition of iso-safrol or camphor oils may be oxidized, then methylated, and then heated with dilute acids to obtain a mixture of iso-vanillin and iso-eugenol, which is easily separable. The iso-eugenol may be treated as in specification 285,451 to obtain vanillin. Full details are described.

LATEST NOTIFICATIONS.

293,434. Nitrated carbohydrate solution. Hercules Powder Co. July 8, 1927.

293,435. Method of producing nitrated carbohydrate solutions. Hercules Powder Co. July 8, 1927.

293,438. Process for the production of trimethylamine-glycol monoborate. Lüdecke, Dr. K. July 8, 1927.

293,440. Refining hydrocarbon distillates. Gray Processes Corporation. July 7, 1927.

293,442. Process for the production of electrolytic iron. I.G. Farbenindustrie Akt.-Ges. July 8, 1927.

293,350. Manufacture of products from cellulose derivatives. I.G. Farbenindustrie Akt.-Ges. July 4, 1927.

293,352. Process for the manufacture of azo dyestuffs. I.G. Farbenindustrie Akt.-Ges. July 4, 1927.

293,450. Method of manufacturing sulphuric acid and oleum by the contact process. Metallbank und Metallurgische Ges. Akt.-Ges. July 7, 1927.

293,690. Processes for sulphonating fatty acids and fatty acid derivatives. Naamlooze Vennootschap Chemische Fabriek Servo and Rozenbroek, M. D. July 9, 1927.

293,392. Process for manufacturing and purifying alumina. Seailles, J. July 5, 1927.

293,358. Manufacture of coloured varnishes. Soc. of Chemical Industry in Basle. July 4, 1927.

293,359. Silicon-containing magnesium alloys for use in connection with pistons for internal-combustion engines. I.G. Farbenindustrie Akt.-Ges. July 4, 1927.

293,703. Manufacture of perfumes. I.G. Farbenindustrie Akt.-Ges. July 7, 1927.

293,719. Manufacture and production of liquid and other hydrocarbons and derivatives thereof by the destructive hydrogenation of carbonaceous materials. I.G. Farbenindustrie Akt.-Ges. August 7, 1926.

293,720. Manufacture and production of liquid and other hydrocarbons and derivatives thereof by the destructive hydrogenation of carbonaceous materials. I.G. Farbenindustrie Akt.-Ges. August 7, 1926.

Specifications Accepted with Date of Application

273,244. Hydroaromatic dicarboxylic acids, Process for the manufacture of. J. D. Riedel Akt.-Ges. June 22, 1926. Addition to 265,959.

274,814. Cellulose acetate, Process and apparatus for the continuous manufacture of. Soc. Chimique des Usines du Rhône. July 26, 1926.

280,846. Vat dyestuffs, Manufacture and production of. I.G. Farbenindustrie Akt.-Ges. November 18, 1926.

286,730. Hexamethylene tetramine, Method of producing. Schieferwerke Ausdauer Akt.-Ges. March 10, 1927.

288,591. Purification of benzol fractions. C. Still. April 13, 1927.

289,759. Exothermic catalytic chemical reactions, Processes for carrying out. Soc. l'Air Liquide, Soc. Anon. pour l'Etude et l'Exploitation des Procédés G. Claude. April 30, 1927.

293,056. Methanol and other alcohols, Production of—and preparation of catalysts therefor. Synthetic Ammonia and Nitrates, Ltd., and R. G. Franklin. December 23, 1926.

293,077. Metallic apparatus for carrying out chemical and other processes. J. Y. Johnson. (*I.G. Farbenindustrie Akt.-Ges.*) March 3, 1927.

293,084. Colloidal materials, Manufacture and treatment of. J. Riley and Sons, Ltd., W. H. Bentley, and W. M. Coates. March 23, 1927.

293,109. Ore smelting. F. Hofmann. March 29, 1927.

293,110. Dyestuffs, Production of. L. B. Holliday and Co., Ltd., J. Kitson, and C. Shaw. March 30, 1927.

293,138. Carrying out chemical reactions in which reaction gases are circulated. Synthetic Ammonia and Nitrates, Ltd., and J. Hughes. April 6, 1927.

293,152. Organo-arsenic compounds, Manufacture of. R. W. E. Stickings and May and Baker, Ltd. May 3, 1927.

293,172. Carbon disulphide, Manufacture of. J. Y. Johnson. (*I.G. Farbenindustrie Akt.-Ges.*) May 26, 1927.

293,185. Liquid hydrocarbons, Manufacture of. J. Y. Johnson. (*I.G. Farbenindustrie Akt.-Ges.*) June 9, 1927.

293,203. Formaldehyde, Manufacture of. J. Y. Johnson. (*I.G. Farbenindustrie Akt.-Ges.*) July 13, 1927.

Applications for Patents

Anderson, I. B. Production of dibenzanthrone derivatives, etc. 20,076. July 10.

Ayres, E. E. Chlorination. 20,320. July 12.

Bataafsche Petroleum Maatschappij and Elkington, H. D. Absorbing ethylene, etc. ,by means of sulphuric acid. 19,911. July 9.

Bataafsche Petroleum Maatschappij and Elkington, H. D. Manufacture of glycol ethers. 20,065. July 10.

Billing, J. Treatment of organic compounds. 20,104. July 11.

Brightman, R., British Dyestuffs Corporation, Ltd., and Chorley, P. Azo dyes. 20,448. July 13. (April 22, 1927.)

Broche, H. Method of obtaining benzine, etc., from solid fuels. 20,335. July 12. (Germany, July 12, 1927.)

Carpmael, A., and IG. Farbenindustrie Akt.-Ges. Manufacture of yellow ferric hydroxide. 20,347. July 12.

Dunworth, S. W. Manufacture of dyestuffs. 19,957. July 9.

Fraser, J. P. Manufacture of carbon dioxide. 20,345. July 12.

Goldsbrough, R. E. Production of liquid hydrocarbons. 20,366. July 13.

Hirst, H. S. Oxidation of volatile organic compounds. 20,265. July 12.

I.G. Farbenindustrie Akt.-Ges and Johnson, J. Y. Production of metal articles from metal powder. 19,901. July 9.

I.G. Farbenindustrie Akt.-Ges and Johnson, J. Y. Production of synthetic tanning agents. 19,902. July 9.

I.G. Farbenindustrie Akt.-Ges and Johnson, J. Y. Production of artificial masses. 19,903. July 9.

I.G. Farbenindustrie Akt.-Ges and Imray, O. Y. Manufacture of condensation products of the benzanthrone series. 20,047. July 10.

I.G. Farbenindustrie Akt.-Ges and Johnson, J. Y. Production of N-dihydro-1.2.1".2"-anthraquinoneazine fast to chlorine. 20,187 July 11.

I.G. Farbenindustrie Akt.-Ges. and Johnson, J. Y. Production of valuable hydrocarbons. 20,424. July 13.

I.G. Farbenindustrie Akt.-Ges. and Johnson, J. Y. Treating solid, etc., substances. 20,425. July 13.

I.G. Farbenindustrie Akt.-Ges. and Johnson, J. Y. Removing combustion residues from internal-combustion engines. 20,426. July 13.

I.G. Farbenindustrie Akt.-Ges. and Johnson, J. Y. Removal of combustion products from internal-combustion engines. 20,570. July 14.

I.G. Farbenindustrie Akt.-Ges. and Johnson, J. Y. Operating internal-combustion engines. 20,508. July 14.

I.G. Farbenindustrie Akt.-Ges. and Johnson, J. Y. Production of anhydrous metallic chlorides. 20,509. July 14.

I.G. Farbenindustrie Akt.-Ges. Manufacture of dyestuffs. 19,930. July 9.

I.G. Farbenindustrie Akt.-Ges. Manufacture of perfumes. 19,982. July 9. (Germany, July 7, 1927.)

I.G. Farbenindustrie Akt.-Ges. Production of liquid, etc., hydrocarbons, etc. 20,041, 20,042. July 10. (Germany, August 7, 1926.)

I.G. Farbenindustrie Akt.-Ges. Process for dyeing ethers, etc. 20,098. July 10. (Germany, July 11, 1927.)

I.G. Farbenindustrie Akt.-Ges. Manufacture of cycloketones, etc. 20,184. July 11. (Germany, July 11, 1927.)

I.G. Farbenindustrie Akt.-Ges. Separation of liquid mixtures. 20,186. July 11. (Germany, August 27, 1927.)

I.G. Farbenindustrie Akt.-Ges. Mechanical gas, etc., washers. 20,316. July 12. (Germany, July 12, 1927.)

I.G. Farbenindustrie Akt.-Ges. Production of magnesium compounds, etc. 20,326. July 12. (Germany, September 20, 1927.)

I.G. Farbenindustrie Akt.-Ges. Production of condensation products from acetylene. 20,423. July 13. (Germany, August 8, 1927.)

Imperial Chemical Industries, Ltd. Elastic-fluid engines. 20,216. July 11.

Imperial Chemical Industries, Ltd. Oxidation of volatile organic compounds. 20,265. July 12.

Laing, B. Burning carbonaceous materials. 20,362. July 12.

Oranienburger Chemische Fabrik Akt.-Ges. Manufacture of sulphonated linseed oil. 20,315. July 12. (Germany, July 12, 1927.)

Scottish Dyes, Ltd., Thomas, J., Tonkin, R., and Wilson, J. S. Dyestuffs. 19,956. July 9.

Scottish Dyes, Ltd., and Thomas, J. Manufacture of dyestuffs. 19,957. July 9.

Scottish Dyes, Ltd., Thomas, J., and Thomson, R. F. Production of dibenzanthrone derivatives, etc. 20,076. July 10.

Weekly Prices of British Chemical Products

The prices and comments given below respecting British chemical products are based on direct information supplied by the British manufacturers concerned. Unless otherwise qualified, the figures quoted apply to fair quantities, net and naked at makers' works.

General Heavy Chemical

ACID ACETIC, 40% TECH.—£19 per ton.

ACID BORIC, COMMERCIAL.—Crystal, £30 per ton; powder, £32 per ton; extra fine powder, £34 per ton.

ACID HYDROCHLORIC.—3s. 9d. to 6s. per carboy d/d, according to purity, strength, and locality.

ACID NITRIC, 80° Tw.—£21 10s. to £27 per ton, makers' works, according to district and quality.

ACID SULPHURIC.—Average National prices f.o.r. makers' works, with slight variations up and down owing to local considerations; 140° Tw., Crude Acid, 60s. per ton. 168° Tw., Arsenical, £5 10s. per ton. 168° Tw., Non-arsenical, £6 15s. per ton.

AMMONIA ALKALI.—£6 15s. per ton f.o.r. Special terms for contracts.

BISULPHITE OF LIME.—£7 10s. per ton, f.o.r. London, packages extra.

BLEACHING POWDER.—Spot, £9 10s. per ton d/d; Contract, £8 10s. per ton d/d, 4-ton lots.

BORAX, COMMERCIAL.—Crystals, £19 10s. to £20 per ton; granulated, £19 per ton; powder, £21 per ton. (Packed in 2-cwt. bags carriage paid any station in Great Britain.)

CALCIUM CHLORIDE (SOLID).—£5 to £5 5s. per ton d/d carr. paid.

COPPER SULPHATE.—£25 to £25 10s. per ton.

METHYLATED SPIRIT 61 O.P.—Industrial, 1s. 3d. to 1s. 8d. per gall.; pyridinised industrial, 1s. 5d. to 1s. 10d. per gall.; mineralised, 2s. 4d. to 2s. 8d. per gall.; 64 O.P., 1d. extra in all cases.

NICKEL SULPHATE.—£38 per ton d/d.

NICKEL AMMONIA SULPHATE.—£38 per ton d/d.

POTASH CAUSTIC.—£30 to £33 per ton.

POTASSIUM BICHROMATE.—4½d. per lb.

POTASSIUM CHLORATE.—3¾d. per lb., ex wharf, London, in cwt. kegs.

SALAMMONIAC.—£45 to £50 per ton d/d. Chloride of ammonia, £37 to £45 per ton, carr. paid.

SALT CAKE.—£3 15s. to £4 per ton d/d. In bulk.

SODA CAUSTIC, SOLID.—Spot lots delivered, £15 2s. 6d. to £18 per ton, according to strength; 20s. less for contracts.

SODA CRYSTALS.—£5 to £5 5s. per ton, ex railway depots or ports.

SODIUM ACETATE 97/98%.—£21 per ton.

SODIUM BICARBONATE.—£10 10s. per ton, carr. paid.

SODIUM BICHROMATE.—3½d. per lb.

SODIUM BISULPHITE POWDER, 60/62%.—£17 10s. per ton delivered for home market, 1-cwt. drums included; £15 10s. f.o.r. London.

SODIUM CHLORATE.—2¾d. per lb.

SODIUM NITRITE, 100% BASIS.—£27 per ton d/d.

SODIUM PHOSPHATE.—£14 per ton, f.o.b. London, casks free.

SODIUM SULPHATE (GLAUBER SALTS).—£3 12s. 6d. per ton.

SODIUM SULPHIDE CONC. SOLID, 60/65.—£13 5s. per ton d/d. Contract, £13. Carr. paid.

SODIUM SULPHIDE CRYSTALS.—Spot, £8 12s. 6d. per ton d/d. Contract, £8 10s. Carr. paid.

SODIUM SULPHITE, PEA CRYSTALS.—£14 per ton f.o.b. London, 1-cwt. kegs included.

Coal Tar Products

ACID CARBOLIC CRYSTALS.—6½d. to 6¾d. per lb. Crude 60's, 2s. 2d. to 2s. 4d. per gall. prompt.

ACID CRESYLIC 99/100.—2s. 7d. to 3s. per gall. 97/99.—2s. 6d. to 2s. 7d. per gall. Pale, 95%, 2s. 3d. to 2s. 5d. per gall. Dark, 2s. 1d. to 2s. 3d.

ANTHRACENE.—A quality, 2½d. per unit. 40%, £5 per ton.

ANTHRACENE OIL, STRAINED.—8d. to 8½d. per gall. Unstrained, 7¾d. to 8d. per gall.

BENZOLE.—Prices at works: Crude, 10½d. to 11d. per gall.; Standard Motor, 1s. 4½d. to 1s. 5d. per gall.; 90%, 1s. 7d. to 1s. 8d. per gall.; Pure, 1s. 10d. to 1s. 11d. per gall.

TOLUOLE.—90%, 1s. 6d. to 2s. 9d. per gall. Firm. Pure, 1s. 10d. to 3s. per gall.

XYLOL.—1s. 3d. to 1s. 11d. per gall. Pure, 2s. 3d. per gall.

CREOSOTE.—Cresylic, 20/24%, 9d. per gall.; middle oil, 7d. to 8d. per gall. Heavy, 7¾d. to 8¼d. per gall. Standard specification, 6½d. to 7d. ex works. Salty, 7½d. per gall.

NAPHTHA.—Crude, 8½d. to 9d. per gall. Solvent 90/160, 1s. 1d. to 1s. 2½d. per gall. Solvent 95/160, 1s. 2d. to 1s. 7d. per gall. Solvent 90/190, 11d. to 1s. 4d. per gall.

NAPHTHALENE CRUDE.—Drained Creosote Salts, £4 to £5 per ton. Whizzed, £8 per ton. Hot pressed, £8 10s. to £9 per ton.

NAPHTHALENE.—Crystals, £13 to £14 10s. per ton. Quiet. Flaked, £13 to £15 per ton, according to districts.

PITCH.—Medium soft, 55s. to 60s. per ton, f.o.b., according to district. Nominal.

PYRIDINE.—90/140, 5s. to 6s. per gall. 90/180, 3s. to 4s. per gall. Heavy, 2s. 6d. to 3s. per gall.

Intermediates and Dyes

In the following list of Intermediates delivered prices include packages except where otherwise stated:

ACID AMIDONAPHTHOL DISULPHO (1-8-2-4).—10s. 9d. per lb.

ACID ANTHRANILIC.—6s. per lb. 100 %.

ACID BENZOIC.—1s. 8½d. per lb.

ACID GAMMA.—4s. 6d. per lb.

ACID H.—3s. per lb.

ACID NAPHTHIONIC.—1s. 6d. per lb.

ACID NEVILLE AND WINTHER.—4s. 9d. per lb.

ACID SULPHANILIC.—8½d. per lb.

ANILINE OIL.—8d. per lb. naked at works.

ANILINE SALTS.—8d. per lb. naked at works.

BENZALDEHYDE.—2s. 3d. per lb.

BENZIDINE BASE.—3s. 3d. per lb. 100% basis d/d.

BENZOIC ACID.—1s. 8½d. per lb.

o-CRESOL 29/31° C.—5½d. per lb.

m-CRESOL 98/100%.—2s. 3d. to 2s. 6d. per lb.

p-CRESOL 32/34° C.—2s. 3d. to 2s. 6d. per lb.

DICHLORANILINE.—2s. per lb.

DIMETHYLANILINE.—1s. 11d. per lb.

DINITHROBENZENE.—8½d. per lb. naked at works. £75 per ton.

DINITROCHLORBENZENE.—£84 per ton d/d.

DINITROTOLUENE.—48/50° C. 8d. per lb. naked at works. 66/68° C. 9d. per lb. naked at works.

DIPHENYLAMINE.—2s. 10d. per lb. d/d.

a-NAPHTHOL.—2s. per lb. d/d.

B-NAPHTHOL.—10d. per lb. d/d.

a-NAPHTHYLAMINE.—1s. 3d. per lb.

B-NAPHTHYLAMINE.—3s. per lb.

o-NITRANILINE.—5s. 9d. per lb.

m-NITRANILINE.—3s. per lb. d/d.

p-NITRANILINE.—1s. 8d. per lb.

NITROBENZENE.—6d. per lb. naked at works.

NITRONAPHTHALENE.—1s. 3d. per lb.

R. SALT.—2s. 2d. per lb.

SODIUM NAPHTHIONATE.—1s. 8½d. per lb. 100% basis d/d.

o-TOLUIDINE.—8d. per lb.

p-TOLUIDINE.—1s. 10d. per lb. naked at works.

m-XYLIDINE ACETATE.—2s. 6d. per lb. 100%.

N. W. ACID.—4s. 9d. per lb. 100%.

Wood Distillation Products

ACETATE OF LIME.—Brown, £10 5s. per ton. Good demand. Grey, £14 10s. to £15 per ton. Liquor, 9d. per gall.

CHARCOAL.—£6 to £9 per ton, according to grade and locality. Foreign competition severe.

IRON LIQUOR.—1s. 3d. per gall, 32° Tw. 1s. per gall. 24° Tw.

RED LIQUOR.—9d. to 10d. per gall.

WOOD CREOSOTE.—1s. 9d. per gall. Unrefined.

WOOD NAPHTHA, MISCIBLE.—3s. 11d. to 4s. 3d. per gall. Solvent, 4s. 3d. per gall.

WOOD TAR.—£4 to £5 per ton.

BROWN SUGAR OF LEAD.—£40 15s. per ton.

Rubber Chemicals

ANTIMONY SULPHIDE.—Golden, 6½d. to 1s. 5½d. per lb., according to quality; Crimson, 1s. 4d. to 1s. 6d. per lb., according to quality.

ARSENIC SULPHIDE, YELLOW.—1s. 9d. per lb.

BARYTES.—£3 10s. to £6 15s. per ton, according to quality.

CADMIUM SULPHIDE.—2s. 6d. to 2s. 9d. per lb.

CARBON BISULPHIDE.—£20 to £25 per ton, according to quantity.

CARBON BLACK.—5½d. per lb., ex wharf.

CARBON TETRACHLORIDE.—£45 to £50 per ton, according to quantity. drums extra.

CHROMIUM OXIDE, GREEN.—1s. 1d. per lb.

DIPHENYLGUANIDINE.—3s. 9d. per lb.

INDIARUBBER SUBSTITUTES, WHITE AND DARK.—5¾d. to 6¾d. per lb.

LAMP BLACK.—£35 per ton, barrels free.

LEAD HYPOSULPHITE.—9d. per lb.

LITHOPHONE, 30%.—£22 10s. per ton.

MINERAL RUBBER "RUBPRON."—£13 12s. 6d. per ton, f.o.r. London.

SULPHUR.—£9 to £11 per ton, according to quality.

SULPHUR CHLORIDE.—4d. to 7d. per lb., carboys extra.

SULPHUR PRECIP. B.P.—£47 10s. to £50 per ton.

THIOCARBAMIDE.—2s. 6d. to 2s. 9d. per lb., carriage paid.

THIOCARBANILIDE.—2s. 1d. to 2s. 3d. per lb.

VERMILION, PALE OR DEEP.—6s. to 6s. 3d. per lb.

ZINC SULPHUR.—1s. per lb.

Pharmaceutical and Photographic Chemicals

ACID, ACETIC, PURE, 80%.—£39 per ton ex wharf London in glass containers.

ACID, ACETYL SALICYLIC.—2s. 6d. to 2s. 8d. per lb.

ACID, BENZOIC, B.P.—2s. to 3s. 3d. per lb., according to quantity. Solely ex Gum, 1s. 3d. to 1s. 6d. per oz., according to quantity.

ACID, BORIC B.P.—Crystal, 36s. to 39s. per cwt.; powder, 40s. to 43s. per cwt.; extra fine powder, 42s. per cwt., according to quantity. Carriage paid any station in Great Britain, in ton lots.

ACID, CAMPHORIC.—19s. to 21s. per lb.

ACID, CITRIC.—1s. 10½d. to 1s. 11d. per lb. Less 5%.

ACID, GALLIC.—2s. 8d. per lb. for pure crystal, in cwt. lots.

ACID, PYROGALLIC, CRYSTALS.—7s. 3d. per lb. Resublimed, 8s. 3d. per lb.

ACID, SALICYLIC, B.P. PULV.—1s. 3d. to 1s. 4d. per lb. Technical.—10½d. to 11½d. per lb.

ACID, TANNIC B.P.—2s. 8d. to 2s. 10d. per lb.

ACID, TARTARIC.—1s. 4½d. per lb., less 5%.

ACETANILIDE.—1s. 5d. to 1s. 8d. per lb. for quantities.

AMIDOL.—7s. 6d. to 9s. per lb., d/d.

AMIDOPYRIN.—8s. to 8s. 3d. per lb.

AMMONIUM BENZOATE.—3s. 3d. to 3s. 6d. per lb., according to quantity. 18s. per lb. ex Gum.

AMMONIUM CARBONATE B.P.—£37 per ton. Powder, £39 per ton in 5 cwt. casks. Resublimated, 1s. per lb.

ATROPINE SULPHATE.—9s. per oz.

BARBITONE.—5s. 9d. to 6s. per lb.

BENZONAPHTHOL.—3s. 3d. per lb. spot.

BISMUTH CARBONATE.—9s. 9d. per lb.

BISMUTH CITRATE.—9s. 3d. per lb.

BISMUTH SALICYLATE.—8s. 9d. per lb.

BISMUTH SUBNITRATE.—8s. 3d. per lb.

BISMUTH NITRATE.—Cryst. 5s. 9d. per lb.

BISMUTH OXIDE.—12s. 3d. per lb.

BISMUTH SUBCHLORIDE.—10s. 9d. per lb.

BISMUTH SUBGALLATE.—7s. 9d. per lb. Extra and reduced prices for smaller and larger quantities of all bismuth salts respectively.

BISMUTHI ET AMMON LIQUOR.—Cit. B.P. in W. Qts. 1s. 0½d. per lb.; 12 W. Qts. 11½d. per lb.; 36 W. Qts., 11d. per lb.

BORAX B.P.—Crystal, 24s. to 27s. per cwt.; powder, 25s. to 28s. per cwt., according to quantity. Carriage paid any station in Great Britain, in ton lots.

BROMIDES.—Ammonium, 2s. 1d. to 2s. 3d. per lb.; potassium, 1s. 9¾d. to 1s. 11d. per lb.; sodium, 2s. to 2s. 2d. per lb.; granulated, ½d. per lb. less; all spot. Large quantities at lower rates.

CALCIUM LACTATE.—B.P., 1s. 2½d. to 1s. 4d. per lb.

CAMPHOR.—Refined flowers, 2s. 11d. to 3s. per lb., according to quantity; also special contract prices.

CHLORAL HYDRATE.—3s. 2d. to 3s. 4d. per lb.

CHLOROFORM.—2s. 4½d. to 2s. 7½d. per lb., according to quantity.

CREOSOTE CARBONATE.—6s. per lb.

ETHERS.—S.G. ·730—11d. to 1s. 0d. per lb., according to quantity; other gravities at proportionate prices.

FORMALDEHYDE.—£39 per ton, in barrels ex wharf.

GUAIACOL CARBONATE.—4s. 9d. to 5s. per lb.

HEXAMINE.—2s. 3d. to 2s. 6d. per lb.

HOMATROPINE HYDROBROMIDE.—30s. per oz.

HYDRASTINE HYDROCHLORIDE.—English make offered at 120s. per oz.

HYDROGEN PEROXIDE (12 VOLS.).—1s. 4d. per gallon, f.o.r. makers' works, naked. Winchesters, 2s. 11d. per gall. B.P., 10 vols., 2s. to 2s. 3d. per gall.; 20 vols., 4s. per gall.

HYDROQUINONE.—3s. 9d. to 4s. per lb., in cwt. lots.

HYPOPHOSPHITES.—Calcium, 3s. 6d. per lb., for 28 lb. lots; potassium, 4s. 1d. per lb.; sodium, 4s. per lb.

IRON AMMONIUM CITRATE.—B.P., 2s. 6d. to 2s. 9d. per lb. Green, 2s. 9d. to 3s. 2d. per lb.; U.S.P., 2s. 7d. to 2s. 10d. per lb.

IRON PERCHLORIDE.—18s. to 20s. per cwt., according to quantity.

IRON QUININE CITRATE.—B.P., 8½d. to 9½d. per oz.

MAGNESIUM CARBONATE.—Light commercial, £31 per ton net.

MAGNESIUM OXIDE.—Light commercial, £62 10s. per ton, less 2½%; Heavy commercial, £21 per ton, less 2½%; in quantity lower; Heavy Pure, 2s. to 2s. 3d. per lb., in 1 cwt. lots.

MENTHOL.—A.B.R. recrystallised B.P., 17s. per lb. net for January delivery; Synthetic, 9s. to 10s. per lb.; Synthetic detached crystals, 9s. to 12s. 6d. per lb., according to quantity; Liquid (95%), 9s. 6d. per lb.

MERCURIALS B.P.—Up to 1 cwt. lots, Red Oxide, 7s. 6d. to 7s. 7d. per lb., levig., 7s. to 7s. 1d. per lb.; Corrosive Sublimate, Lump, 5s. 9d. to 5s. 10d. per lb., Powder, 5s. 2d. to 5s. 3d. per lb.; White Precipitate, Lump, 5s. 11d. to 6s. per lb., Powder, 6s. to 6s. 1d. per lb., Extra Fine, 6s. 1d. to 6s. 2d. per lb.; Calomel, 6s. 4d. to 6s. 5d. per lb.; Yellow Oxide, 6s. 10d. to 6s. 11d. per lb.; Persulph., B.P.C., 6s. 1d. to 6s. 2d. per lb.; Sulph. nig., 5s. 10d. to 5s. 11d. per lb. Special prices for larger quantities.

METHYL SALICYLATE.—1s. 5d. to 1s. 9d. per lb.

METHYL SULPHONAL.—9s. to 9s. 3d. per lb.

METOL.—9s. to 11s. 6d. per lb. British make.

PARAFORMALDEHYDE.—1s. 9d. per lb. for 100% powder.

PARALDEHYDE.—1s. 1d. to 1s. 4d. per lb.

PHENACETIN.—2s. 6d. to 2s. 9d. per lb.

PHENAZONE.—4s. to 4s. 3d. per lb.

PHENOLPHTHALEIN.—6s. to 6s. 3d. per lb.

POTASSIUM BITARTRATE 99/100% (Cream of Tartar).—98s. per cwt., less 2½ per cent.

POTASSIUM CITRATE.—B.P.C., 2s. 4d. to 2s. 7d. per lb.; U.S.P., 2s. 3d. to 2s. 6d. per lb.

POTASSIUM FERRICYANIDE.—1s. 9d. per lb., in cwt. lots.

POTASSIUM IODIDE.—16s. 8d. to 16s. 11d. per lb., according to quantity.

POTASSIUM METABISULPHITE.—6d. per lb., 1-cwt. kegs included, f.o.r. London.

POTASSIUM PERMANGANATE.—B.P. crystals, 5½d. per lb., spot.

QUININE SULPHATE.—1s. 8d. to 1s. 9d. per oz., bulk in 100 oz. tins.

RESORCIN.—2s. 10d. to 3s. per lb., spot.

SACCHARIN.—47s. per lb.; in quantity lower.

SALOL.—2s. 4d. per lb.

SODIUM BENZOATE, B.P.—1s. 8d. to 1s. 11d. per lb.

SODIUM CITRATE, B.P.C., 1911—2s. 1d. to 2s. 4d. per lb., B.P.C. 1923—2s. 5d. to 2s. 6d. per lb. U.S.P., 2s. 4d. to 2s. 7d. per lb., according to quantity.

SODIUM FERROCYANIDE.—4d. per lb., carriage paid.

SODIUM HYPOSULPHITE, PHOTOGRAPHIC.—£15 per ton, d/d consignee's station in 1-cwt. kegs.

SODIUM NITROPRUSSIDE.—16s. per lb.

SODIUM POTASSIUM TARTRATE (ROCHELLE SALT).—95s. to 100s. per cwt. Crystals, 4s. per cwt. extra.

SODIUM SALICYLATE.—Powder, 1s. 6d. to 1s. 9d. per lb. Crystal, 1s. 7d. to 1s. 10d. per lb.

SODIUM SULPHIDE, PURE RECRYSTALLISED.—10d. to 1s. 1d. per lb.

SODIUM SULPHITE, ANHYDROUS.—£27 10s. to £28 10s. per ton, according to quantity. Delivered U.K.

SULPHONAL.—6s. 9d. to 7s. per lb.

TARTAR EMETIC, B.P.—Crystal or powder, 2s. 1d. to 2s. 2d. per lb.

THYMOL.—Puriss., 9s. 6d. to 9s. 9d. per lb., according to quantity. Firmer. Natural, 14s. 3d. per lb.

Perfumery Chemicals

ACETOPHENONE.—7s. per lb.

AUBEPINE (EX ANETHOL).—10s. per lb.

AMYL ACETATE.—2s. 6d. per lb.

AMYL BUTYRATE.—4s. 9d. per lb.

AMYL SALICYLATE.—2s. 9d. per lb.

ANETHOL (M.P. 21/22° C.).—5s. 3d. per lb.

BENZYL ACETATE FROM CHLORINE-FREE BENZYL ALCOHOL—2s. per lb.

BENZYL ALCOHOL FREE FROM CHLORINE.—2s. per lb.

BENZALDEHYDE FREE FROM CHLORINE.—2s. 6d. per lb.

BENZYL BENZOATE.—2s. 6d. per lb.

CINNAMIC ALDEHYDE NATURAL.—15s. 6d. per lb.

COUMARIN.—9s. 6d. per lb.

CITRONELLOL.—13s. 6d. per lb.

CITRAL.—8s. 3d. per lb.

ETHYL CINNAMATE.—6s. per lb.

ETHYL PHTHALATE.—2s. 6d. per lb.

EUGENOL.—10s. 6d. per lb.

GERANIOL (PALMAROSA).—23s. per lb.

GERANIOL.—6s. 6d. to 11s. per lb.

HELIOTROPINE.—4s. 9d. per lb.

ISO EUGENOL.—14s. 6d. per lb.

LINALOL.—Ex Bois de Rose, 15s. per lb. Ex Shui Oil, 10s. 6d. per lb.

LINALYL ACETATE.—Ex Shui Oil, 14s. 6d. per lb. Ex Bois de Rose, 18s. 6d. per lb.

METHYL ANTHRANILATE.—8s. 6d. per lb.

METHYL BENZOATE.—4s. per lb.

MUSK KETONE.—35s. per lb.

MUSK XYLOL.—7s. per lb.

NEROLIN.—3s. 6d. per lb.

PHENYL ETHYL ACETATE.—11s. per lb.

PHENYL ETHYL ALCOHOL.—10s. 6d. per lb.

RHODINOL.—38s. per lb.

SAFROL.—1s. 6d. per lb.

TERPINEOL.—1s. 6d. per lb.

VANILLIN.—16s. 6d. per lb.

Essential Oils

ALMOND OIL.—Foreign S.P.A., 10s. 6d. per lb.

ANISE OIL.—2s. 9d. per lb.

BERGAMOT OIL.—26s. per lb.

BOURBON GERANIUM OIL.—20s. per lb.

CAMPHOR OIL.—9d. per lb.

CANANGA OIL, JAVA.—12s. 9d. per lb.

CINNAMON OIL LEAF.—6s. 9d. per oz.

CASSIA OIL, 80/85%.—7s. 6d. per lb.

CITRONELLA OIL.—Java, 2s. 1d. per lb., c.i.f. U.K. port. Ceylon, pure, 1s. 11d. per lb.

CLOVE OIL (PURE 90/92%).—7s. 3d. per lb.

EUCALYPTUS OIL, AUSTRALIAN, B.P. 70/75%.—2s. 1d. per lb.

LAVENDER OIL.—Mont Blanc, 48/50%, Esters, 15s. 9d. per lb.

LEMON OIL.—13s. per lb.

LEMONGRASS OIL.—4s. 3d. per lb.

ORANGE OIL, SWEET.—30s. per lb.

OTTO OF ROSE OIL.—Anatolian, 35s. per oz. Bulgarian, 75s. per oz.

PALMA ROSA OIL.—13s. 9d. per lb.

PEPPERMINT OIL.—Wayne County, 14s. 6d. per lb.; Japanese, 7s. 3d. per lb.

PETITGRAIN.—7s. 3d. per lb. Sandalwood, Mysore, 26s. 6d. per lb., 90/95%, 16s. 6d. per lb.

London Chemical Market

The following notes on the London Chemical Market are specially supplied to* THE CHEMICAL AGE *by Messrs. R. W. Greeff & Co., Ltd., and Messrs. Chas. Page & Co., Ltd., and may be accepted as representing these firms' independent and impartial opinions.

July 18, 1928.

THE market has been quietly steady during the past week, with a fair amount of business passing. Prices on the whole continue steady, and one or two products have been advanced in price, such as oxalic acid for home and export trade, and formic acid for export. Export trade tends to improve.

General Chemicals

ACETONE is unchanged in value at £65 to £67 per ton.
ACID ACETIC is unchanged.
ACID FORMIC has been in fair request at £47 per ton for 85% quality.
ACID LACTIC.—A fair business has been transacted on the basis of £43 per ton for the usual high class pale quality, 50% by weight.
ACID OXALIC is active at £31 to £33 per ton according to quantity and position.
ACID TARTARIC is inclined to be somewhat quieter and the price is quoted at 1s. 4d. to 1s. 4¼d. per lb.
AMMONIUM CHLORIDE is slightly easier, although the demand has improved; it is quoted at £19 per ton for fine crystals.
ALUMINA SULPHATE has been active and the price is well maintained at £6 to £6 10s. for 17/18% quality, technically free from iron.
ARSENIC.—There is no change in this market to report and the price continues round about £19 per ton.
BARIUM CHLORIDE is again higher and is now quoted at £9 per ton, ex store, and works are well sold ahead.
COPPER SULPHATE.—Some small business has been placed on outside markets and there is no change in the price.
CREAM OF TARTAR continues nominally unchanged at £103, less 2½% for 99/100% B.P. quality.
FORMALDEHYDE has been fairly active and the price is unchanged at £39 10s. for 40% by volume.
LEAD ACETATE.—The price is well maintained here with a good demand for both grades at £42 10s. to £41 per ton respectively.
LEAD NITRATE is unchanged at £37 per ton.
LIME ACETATE is unchanged and in brisk request.
METHYL ACETONE.—A fair trade is passing at £56 to £58 per ton for 45% material.
POTASSIUM CARBONATE AND CAUSTIC is unchanged in price, with a steady business passing.
POTASSIUM CHLORIDE is active at £28 per ton.
POTASSIUM PERMANGANATE.—Good business is reported on the basis of 5¼d. per lb. for B.P. with commercial quality at halfpenny per lb. less.
POTASSIUM PRUSSIATE is unchanged in price at £63 10s. to £65 10s., according to quantity and position.
SODIUM ACETATE.—Demand has been brighter and the price is very firm at £22 per ton.
SODIUM PHOSPHATE has been very active and the price is quoted at £13 per ton to £13 5s. per ton.
SODIUM PRUSSIATE is unchanged at 5d. per lb. with a good demand.
SODIUM SULPHIDE is unchanged.
TARTAR EMETIC has been a bright spot at 11¼d. per lb., and makers now report that they are well sold ahead.
ZINC SULPHATE has been active on the basis of £12 per ton.

Coal Tar Products

The market for coal tar products is still fairly quiet, and there is little change to report in the prices from last week.

MOTOR BENZOL remains at about 1s. 4d. per gallon on rails.
SOLVENT NAPHTHA is quoted at 1s. 1½d. to 1s. 2d. per gallon on rails.
HEAVY NAPHTHA is unchanged at 1s. 1d. to 1s. 2d. per gallon, on rails.
CREOSOTE OIL is quoted at about 6¼d. per gallon on rails in the North for spot delivery, and at about 7d. per gallon in London.
CRESYLIC ACID is still rather weak, the 98/100% quality remaining about 2s. 6d. per gallon f.o.b., and the dark quality 95/97% is quoted at about 1s. 10d. to 1s. 11d. per gallon.
NAPHTHALENE.—The 74/76 quality is quoted at £5 per ton, and the 76/78 quality at £6 to £6 10s. per ton.

Scottish Chemical Market

DUE to local holidays there has been little business of any importance since our last report and prices show no change. Export enquiry remains fairly good.

Latest Oil Prices

LONDON, July 18.—LINSEED in moderate demand at 2s. 6d. to 5s. decline. Spot, ex mill, £29 10s.; July, £28 7s. 6d.; August, £28 12s. 6d.; September-December, £28 15s.; January-April, £29 5s.; May-August, £29 15s., naked. RAPE OIL steady. Crude extracted, £41 10s.; technical refined, £43 10s., naked, ex wharf. COTTON OIL quiet. Egyptian crude, £34 10s.; refined common edible, £40; deodorised, £42 per ton; naked. TURPENTINE inactive and 3d. lower. American spot, 43s. 9d.; August, 44s. 3d.; September-December, 44s. 9d. per cwt.

HULL, July 18.—LINSEED.—Spot and month, £28 15s. August, £28 17s. 6d.; September-December, £29; January-April, £29 7s. 6d. COTTON OIL.—Bombay crude, £30; Egyptian crude, £32 5s.; edible refined, £36 10s.; technical, £36 10s.; deodorised spot, £38 10s. PALM KERNEL OIL.—Crushed naked, 5½ per cent., spot, £38 10s. GROUND NUT OIL.—Crushed/extracted, £39; deodorised, £43. SOYA OIL.—Extracted and crushed, £33; deodorised, £36 10s. RAPE OIL.—Crude-extracted, £40 10s.; refined, £42 10s. per ton. TURPENTINE.—Spot, 46s. per cwt. net cash terms, ex mill.

Nitrogen Products

Export.—There have been no changes to report during the past week. The announcement of prices has stabilised the market. It is understood that the continental demand is rather sluggish, but that the demand from extra-European territories has been quite satisfactory. The American price has fallen to about $2.35 per 100 lb., delivered in bulk in the northern markets. The price quoted for export is $2.30 f.a.s., in single bags.

Home.—There have been several inquiries recently for sulphate for autumn delivery, but British producers have not yet disclosed their prices or given any indication beyond that they anticipate that these will be announced at the end of the present month. Between now and then it is anticipated that the sales made will be very small.

Nitrate of Soda.—The nitrate price has fallen to about £9 3s. per ton in certain European countries on account of the anxiety of merchants to liquidate their stocks. The price f.a.s. Chile continues at about 16s. 4d. per metric quintal. Sales for shipment since July amount to about 500,000 tons.

South Wales By-Products

QUIET conditions in all sections but with values generally unaltered sums up South Wales by-product activities at the moment. Pitch has a moderate demand round about 57s. 6d. to 62s. 6d. delivered. There has been small business in crude tar round about the 50s. per ton f.o.r. mark. Refined tars have eased a trifle, coke oven tar changing hands at 8d. per gallon delivered in barrels, and gas-works tar about 7½d. to 7¾d. per gallon delivered. Crude naphthalene has practically no demand round the 80s. per ton f.o.r. mark, while whizzed is stagnant at 90s. per ton. Solvent naphtha has slightly better demand with values unchanged at from 1s. to 1s. 1d. per gallon f.o.r. The same remark applies to heavy naphtha.

Reported Formation of German-Swiss Dye Trust

IT is reported from Paris that the main Swiss and German dye companies, at a meeting held at Basle in June, formed an international trust. French producers are said to have been present at the negotiations, but so far have refrained from joining the new combine. The two bodies have formed a holding company of 20,000,000 Swiss francs capital. Its official object is said to be the exploitation of new chemical processes, but it is believed that the organisation may bring about the resumption of international dye cartel negotiations.

Non-Inflammable Film Demonstration

A PRIVATE DEMONSTRATION was given, on Tuesday, at the Astoria Theatre, London, of a full-length moving picture play printed entirely on the new "Nonflamco" film, manufactured by the Non-Inflammable Film Co., at its Rickmansworth works. For the purpose of comparison several scenes of the play printed on the film commonly in use were shown on the screen. It was stated that no appreciable difference in the quality of the photography could be detected. Pictures were also shown of the effect of heat on the two varieties of film. The ordinary film flared up almost instantly whereas the "non-flamco" variety was merely charred.

Coumarone, etc. Resins

IN view of the growing demand, Rubber Industries, Ltd., of Downham Mills, Tottenham, London, N.17, state that it may be of interest to our readers to know that they have now made arrangements to produce and keep a constant stock of 150 tons of coumarone, gutta percha, rubber and elastic resins.

Manchester Chemical Market

[From Our Own Correspondent.]

Manchester, July 19, 1928.

Trading conditions on the market for chemical products here are of a rather patchy character, and, on the whole, it may be said that the effect of the holiday season on business is much in evidence. This week there have been sellers who, everything considered, have experienced a not unsatisfactory demand for their products, although, on the other hand, there are others who report inquiry during the past few days to have been extremely slow. It is still the case, however, that prices generally are being maintained.

Heavy Chemicals

Interest in sulphide of sodium continues on somewhat inactive lines, and the tendency of prices is still easy, although little actual change has occurred since last week; offers of 60–65 per cent. concentrated solid range from £9 10s. to £10 per ton, and of the commercial material at round £7 15s. With regard to bleaching powder, there is a moderate demand about for this at from £6 15s. to £7 per ton, according to quantity. A fair business is moving in the case of prussiate of soda, and prices are steady at from 4½d. to 5¼d. per lb., according to quantity. The demand for phosphate of soda this week has been relatively slow, but offers are still in the neighbourhood of £12 per ton. There is not much inquiry about for hyposulphite of soda, and at about £15 10s. per ton for the photographic quality, and £9 5s. for the commercial, the tendency is easy. A quietly steady business is reported in bicarbonate of soda, and the price position is firm on a contract basis of £10 10s. per ton. Caustic soda is well held at from £13 7s. 6d. to £15 7s. 6d. per ton, according to quality, and a fair quantity is moving into consumption. Chlorate and bichromate of soda are in moderate request, and values are held at 3d. and 3¼d. per lb. respectively. The demand for saltcake is on comparatively quiet lines, and low offers of this material are about at round £2 12s. 6d. per ton. There is some inquiry about for nitrite of soda, and prices are steady at from £19 10s. to £19 15s. per ton. With regard to alkali, makers report a fall call against contracts, with values maintained on the basis of £6 2s. 6d. per ton.

Only a quiet trade continues to be reported in permanganate of potash, although prices are much the same as at last report, B.P. material being offered at 5d. to 5¼d. per lb., and commercial quality at about 4¾d. Bichromate of potash is moving off in moderate quantities, and from 4d. to 4¼d. per lb. is still being quoted. Carbonate of potash meets with a quietly steady demand, and values keep fairly steady at about £25 per ton. Yellow prussiate of potash keeps up at from 6¾d. to 7¼d. per lb., according to quantity, although only a moderate volume of business is being done just now. With regard to chlorate of potash, inquiry this week has been rather slow, but prices are still at about 3d. per lb. There is a quiet demand about for caustic potash, which keeps firm at from £33 5s. per ton for prompt delivery of one to five-ton lots.

Arsenic has been in comparatively poor request on this market, but prices are about held at from £16 15s. to £17 per ton at the mines for white powdered Cornish makes. Inquiry for sulphate of copper at the moment is slower than it has been recently, but offers are fairly steady at the moment at from £16 to £16 10s. per ton. There is a moderate demand about for the lead compounds, and values are maintained at £37 per ton for nitrate and £40 to £41 and £39 per ton for white and brown acetate. Prompt offers of the acetates of lime remain on the short side, and prices are fairly firm at round £9 10s. per ton for brown quality and £16 5s. for grey.

Acids and Tar Products

Acetic acid is selling in moderate quantities at steady prices, with offers of the commercial 80 per cent. material at £36 per ton, and of glacial at £66 to £67. Oxalic acid meets with a steady demand, and up to 3¼d. per lb. is quoted.

Pitch is nominally steady at about £3 per ton, f.o.b., but the actual demand is too small to furnish a real test of the market. There is a quiet call for carbolic acid, with crystal on offer at about 6¼d. per lb., and 60's crude at 2s. 2d. per gallon. Inquiry for creosote oil is no better than before, and supplies are on offer at from 6¼d. to 6¼d. per gallon. Solvent naphtha is steady and in moderate request at about 1s. 1d. per gallon.

Company News

British Cotton-Seed Products.—The net profit for the year to March 31 last was £1,572, which is carried forward. An interim dividend of 2½ per cent. in respect of 1928–9 has been declared.

English China Clays, Ltd.—The directors announce an interim dividend on the preference shares at the rate of 7 per cent. per annum for the half-year ended June 30, payable on August 1, to shareholders registered on July 25.

W. and T. Avery.—For the year ended March 31, the net profits amounted to £99,525, and £52,451 was brought forward. A final dividend of 10 per cent. is declared on the ordinary shares, making 15 per cent. for the 12 months, while a distribution of 10 per cent. is to be made on the additional ordinary shares recently created, placing £10,000 to reserve, and carrying forward £53,987.

Andrade Nitrate Co.—The gross profit including interest and transfer fees for 1927 amounts to £1,288, and after providing for London office expenses £639, directors' fees £400, debenture interest £972, stoppage expenses £2,658, Chilian income and property taxes £288, the result is a loss for the year of £3,659. Adding the balance brought forward £1,975, there remains a debit of £5,634. The oficina remained closed throughout the year, the state of industry not permitting the resumption of production. The net loss in the previous year was £9,891, the credit balance brought in on that occasion being £7,016.

Zinc Corporation.—The report for 1927 states that a considerable reduction was shown in profits, which amount to £259,278, and to which is added the balance of appropriations for mine development and new plant at December 31, 1926, now written back, £89,874, making £349,152. Preferential and interim participating dividend absorb £116,550 and appropriation for mine development and new plant £100,000, leaving £132,602, which with the balance brought forward £21,855, makes £154,457. Directors have since declared a participating dividend of 2s. 6d. per share (making 4s. per share on the ordinary shares and 8s. per share on the preference shares), leaving to be carried forward £42,103.

British Metallising Co.—The statutory report states that the number of shares allotted is 1,000,000, of which 300,000 have been allotted as fully paid up in consideration of transfer of assets of Precious Metals Industries. Upon each of the remaining 700,000 shares 2s. has been paid in cash. The total amount received by the company in respect of shares issued wholly for cash is £70,000. There is no contract the modification of which has to be reported. Payments are as follows: Preliminary expenses £2,578, machinery and plant £693, expenditure in connection with new patents £262, excess of revenue expenditure over income £2,439, cash £64,025. Preliminary expenses are estimated at £2,700.

Chemical Trade Inquiries

The following inquiries, abstracted from the "Board of Trade Journal" have been received at the Department of Overseas Trade (Development and Intelligence), 35, Old Queen Street, London, S.W.1. British firms may obtain the names and addresses of the inquirers by applying to the Department (quoting the reference number and country), except where otherwise stated.

Vacuum Salts.—A firm of general merchants and commission agents in Barbados desire agencies. (Reference No. 52.)

Creosote.—The South African Railways and Harbours Administration is calling for tenders, to be presented in South Africa by July 26, for the supply of 50,000 Imperial gallons of creosote (Tender No. 1283). (Reference B.X. 4583.)

Wells and Orpen as Collaborators

Sir William Orpen has read the advance proofs of Mr. H. G. Wells's new novel, "Mr. Blettsworthy on Rampole Island," and has answered in his own way the questions which everybody will be asking in a months' time when the book is published. The great painter has made a sketch of the central incident in the novel, the Sacred Lunatic on a cannibal island, and the sketch has reached the publishers in the nick of time. It will adorn the jacket of "Mr. Blettsworthy on Rampole Island," and will bring together for the first time two of the greatest imaginative artists of this generation.

291.64

FIRTH

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COMBATING CORROSION

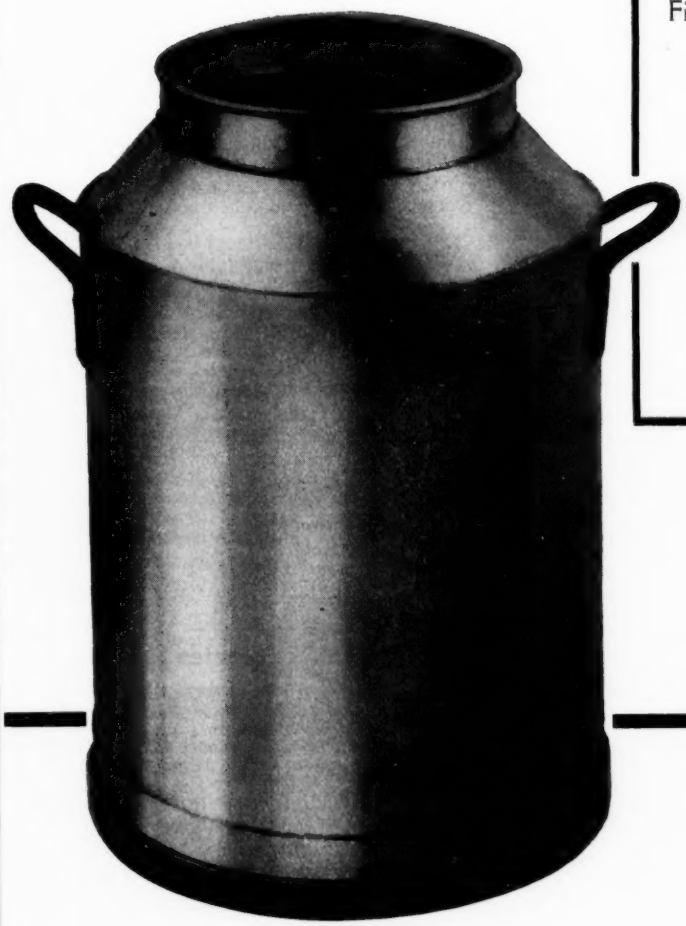
IF, in the machinery you build or operate, there is one single part which is exposed to the corroding influences of moisture, chemicals, food acids or hot gases—if that one detail corrodes, and in corroding, weakens, loses efficiency, leaks or contaminates your product—that one part would be better made from

FIRTH STAYBRITE

—the super malleable, super rustless steel.

Firth Staybrite is obtainable in the form of

BARS, STRUCTURAL SECTIONS, STRIP, SHEETS, PLATE, WIRE, TUBE, FORGINGS AND CASTINGS



HEAT-RESISTING STEELS

In addition to their Stainless Steels, Firth's have for many years produced successful HEAT-RESISTING STEELS for application where resistance to scaling combined with optimum strength at high temperature is required. Particulars of these steels will gladly be sent upon request.

Write for Catalogue 109 which gives full details of Firth Stainless Steels.

The photograph shows a Chemical Budget made of Firth Staybrite Steel by The Roto Engineering Co., Ltd., Bradford.

THOS. FIRTH & SONS, LIMITED

NORFOLK WORKS, SHEFFIELD. Also at BLACKHEATH, Nr. BIRMINGHAM

Commercial Intelligence

The following are taken from printed reports, but we cannot be responsible for any errors that may occur.

County Court Judgments

[NOTE.—The publication of extracts from the "Registry of County Court Judgments" does not imply inability to pay on the part of the persons named. Many of the judgments may have been settled between the parties or paid. Registered judgments are not necessarily for debts. They may be for damages or otherwise, and the result of bona-fide contested actions. But the Registry makes no distinction of the cases. Judgments are not returned to the Registry if satisfied in the Court books within twenty-one days. When a debtor has made arrangements with his creditors we do not report subsequent County Court judgments against him.]

RADIUM PRODUCTS, 187, Gooch Street, Birmingham, manufacturing chemists. (C.C., 21/7/28.) £14 14s. April 25.

Mortgages and Charges

[NOTE.—The Companies Consolidation Act of 1908 provides that every Mortgage or Charge, as described therein, shall be registered within 21 days after its creation, otherwise it shall be void against the liquidator and any creditor. The Act also provides that every Company shall, in making its Annual Summary, specify the total amount of debts due from the Company in respect of all Mortgages or Charges. The following Mortgages and Charges have been so registered. In each case the total debt, as specified in the last available Annual Summary, is also given—marked with an *—followed by the date of the Summary, but such total may have been reduced.]

ALLIED MAGNESITE INDUSTRIES (EUBOEA), LTD., London, S.W. (M., 21/7/28.) Registered July 5, £2,500 second debenture, to F. H. Richmond, 91, Wimpole Street, W., director of a public company; general charge. *£10,000. December 31, 1927.

Satisfactions

BIO-CHEMICAL REMEDIES, LTD., London, S.W. (M.S., 21/7/28.) Satisfaction registered July 6, £350, registered May 22, 1928.

DIXON'S WHITE, LTD. (late RAGOSINE AND CO., LTD.), London, E., oil merchants. (M.S., 21/7/28.) Satisfactions registered July 3, all moneys, etc., registered February 6, 1917, and £10,000 (not ex.) registered July 27, 1918.

London Gazette, &c.

Company Winding Up Voluntarily

CHEMICALS AND FERTILIZERS, LTD. (C.W.U.V., 21/7/28.) By special resolution, June 14, confirmed July 3. E. Dons, 41, Eastcheap, London, E.C.3, appointed as liquidator.

Bankruptcy Information

TRAVIS (S. H.) AND CO., 33, Kings Road, St. Pancras, London, manufacturing chemists. (R.O., 21/7/28.) Receiving order, July 12. Creditor's petition.

Partnership Dissolved

BATEMAN (P.) AND CO. (Philip BATEMAN and John Gilchrist STEVENSON), olive oil and olive oil soap merchants and agents, 34, George Street, Manchester, by mutual consent, as from June 22, 1928. Debts received and paid by J. G. Stevenson.

New Companies Registered

COAL CONVERSION, LTD., Amberley House, Norfolk Street, London, W.C.2. Registered as a "public" company on July 16. Nominal capital, £500,000 in 100,000 preference shares of £1 each and 800,000 ordinary shares of 10s. each. To acquire the benefit of, or a licence in respect of, certain existing inventions relating to the low temperature carbonisation of coal and other fuels, to adopt an agreement with Leeds Fireclay Co., Ltd., and to carry on the business of distillers, extractors, producers, manufacturers and suppliers of solids, liquids, gases and other substances or matter derived from any material which can be so treated as to store or liberate energy, including coal, oils, shale, slack, lignite, peat, wood, bitumen, dross, refuse, sewage and vegetable matter, their derivatives and residuals; importers, exporters, producers and manufacturers of all classes of fuel, for domestic, industrial and other purposes, dealers in tar, pitch, asphalt, gas, benzol, ammoniacal liquor, ammonium sulphate and other ammonium salts, etc.

DARROCH, NEWELL AND CO., LTD., 1157, Gallowgate, Glasgow, E. Registered in Edinburgh on July 14. Nominal capital, £8,000 in 3,000 preference and 5,000 ordinary shares of £1 each. Merchants and agents for all kinds of chemical composition and mineral and vegetable products, paints, colours, varnishes, enamels, etc. Directors: P. Darroch, W. O. Newell.

ARTHUR FIELD, SONS AND CO., LTD., 4, Portland Street, Halifax. Registered July 16. Nominal capital, £5,000 in £1 shares. To acquire the business of a wholesale and manufacturing chemist, merchant, importer and exporter, manufacturer of and dealer in fine chemicals, essential oils, essences, chemicals for perfumery, etc., now carried on by A. Field as "Arthur Field, Sons and Company" at 2 and 4, Portland Street, Halifax. Directors: A. Field, G. V. Field, and R. Field.

LANDONS GRANULATED FERTILISER CO., LTD., 1, Queen Street, London, E.C.4. Registered July 16. Nominal capital, £40,000 in 30,000 ordinary shares of £1 each and 200,000 deferred shares of 1s. each. Manufacturers, exporters and importers of and dealers in chemical and other fertilisers, chemicals, lime, etc., and to adopt an agreement with Jessie W. Landon. Directors: C. de L. Hewitt, W. W. Leuchars, O. J. Buxton, C. R. Akers, and J. W. Landon.

LIME-FREE WATER AND GENERAL SERVICES, LTD. Private company. Registered July 14. Nominal capital, £1,000 in £1 shares. To purchase, hire, acquire, instal or manufacture, sell, let on hire and deal with water-softening and purification plants, laundry equipment and all kinds of motors and machinery, and to adopt an agreement with L. R. Rees. Directors: L. R. Rees, 1, Sunbury Avenue, Mill Hill, London, N.W.7; Baron R. H. F. Q. van Ufford.

W. CAIG MITCHELL AND CO., LTD., 54, Paterson Street, Kingston, Glasgow, C.5. Registered in Edinburgh July 12. Nominal capital, £2,000 in 1,900 ordinary shares of £1 each and 2,000 deferred shares of 1s. each. To carry on the business of chemical manufacturers and distillers of essences and essential oils, manufacturers of colours, perfumes, food products, etc. Directors: W. Black, 1, Molendinar Street, Glasgow, C.1; W. McHutchison; E. S. McFarlane.

MULSOID COMPANY, LTD., 73, Holland Street, Manchester. Registered July 13. Nominal capital, £10,000 in £1 shares (500 "A" ordinary and 9,500 "B" ordinary). To acquire the goodwill of the business of the production of Mulsoid Products, and the trade mark "Mulsoid" (class 47, No. 451,472), to work, manufacture and sell such products under a sole and exclusive licence from Industrial Processes Development, Ltd., of Canada, in the United Kingdom, the Isle of Man and the Irish Free State, and to carry on the business of manufacturers of and dealers in chemicals and allied products, etc., and to adopt an agreement with Industrial Processes Development, Ltd., and Peter Spence and Sons, Ltd. Directors: H. Spence, Red House, Ainsdale, I. P. Llewellyn, A. Sheppard, F. W. Atack.

"C.A." Queries

We receive so many inquiries from readers as to technical, industrial, and other points, that we have decided to make a selection for publication. In cases where the answers are of general interest, they will be published; in others, the answers will simply be passed on to the inquirers. Readers are invited to supply information on the subjects of the queries:—

105. (*Steel Drums with Linings of Rubber, Ebonite, etc.*)—"We should be obliged if you would give us the names of makers of steel drums and barrels with linings of rubber, ebonite, aluminium, tin, acid resisting steel, etc."

106. (*Silicon Tetrachloride, Red Phosphorus, Aluminium Powder*)—Addresses are required of British manufacturers of silicon tetrachloride, red phosphorus, and aluminium powder.

Proposed Exemption of Zirconium Oxide

REPRESENTATIONS have been made to the Board of Trade, under Section 10 (5) of the Finance Act, 1926, regarding the exemption of zirconium oxide from Key Industry duty. Any communications with respect to these representations should be addressed to the Principal Assistant Secretary, Industries and Manufactures Department, Board of Trade, Great George Street, S.W.1, within one month from the date of this notice.